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**A study of the elements affecting within-class grouping in catering for learner diversity
in Hong Kong secondary economics lessons**

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**A study of the elements affecting within-class
grouping in catering for learner diversity in Hong
Kong secondary economics lessons**

Grace Wong

**A dissertation submitted to the University of Bristol in
accordance with the requirements of the degree of Doctor of
Education in the Graduate School of Education**

Supervisor: Professor Sheila Trahar

2021

Abstract

Curriculum reform in Hong Kong has resulted in an increase in learner diversity in the secondary school classroom. For economics teachers, dealing with this diversity is complex. In order to cater for learners' differences, within-class grouping is widely employed in economics lessons, as observed by the author in her role as a curriculum officer for the Education Bureau. However, previous studies suggest that such grouping arrangements may not work effectively in contexts influenced by Confucian heritage culture (CHC) such as Hong Kong. This apparent conflict stimulated the author to explore the students' differences and elements affecting grouping arrangements in Hong Kong secondary economics classes. The research was conducted using a case study methodology, involving interviews with three secondary economics teachers, focus groups with students and class observations. Due to school suspensions because of COVID-19, almost all data were collected online. Notwithstanding the constraints of having to collect data in this way, the findings of this study can contribute new understandings of learning and teaching in economics in the Hong Kong context.

Findings of the study suggest that academic performance is the most noticeable difference in students. Such difference is perceived to be related to students' ability, prior knowledge, and achievement motivation. The findings also show that elements such as group composition, group task design, and teacher's style can positively enhance students' learning and cater for learner differences. On the other hand, gender, age, language barrier, and class size may impede the implementation of grouping. Finally, the over-emphasis on public examination results rooted in the CHC of the local context appears to have the greatest impact on the implementation of grouping and may weaken its effectiveness. The findings of this study provide insights into how to manage learner diversity in secondary economics classrooms in Hong Kong and have the potential to contribute to curriculum development and teachers' professional training.

COVID-19 Statement

The outbreak of COVID-19 in Hong Kong in early February 2020 distorted, significantly, my research schedule. At the beginning of the pandemic, I was revising and enriching the contents of my literature review and started to draft the chapter on the research methodology. However, since all the libraries were closed, I could not borrow reference books for writing up my draft. Therefore, I could only search for relevant studies on the web outside the City University platform and Bristol's extensive electronic resources, along with data available on the open web, which was not always up-to-date and sufficiently detailed. However, quite a number of literature which I found relevant to my study could not be accessed through this method. Owing to this shortcoming, I tried to look for more relevant and updated references to revise my draft after the libraries reopened. However, this was not a long-lasting arrangement; they closed again when the epidemic continued to strike Hong Kong in the following months.

With respect to the data collection process, I scheduled the teacher interviews to be conducted after the lunar new year holidays, i.e., February 2020. However, all schools were closed from Mid-January onward, and there was uncertainty about when they would reopen. Therefore, I postponed my data collection process until they did. The schools were, however, closed for about two months until May, and when they resumed, I was told that the teachers were busy with their new schedule and could not spare time to participate in my research. Furthermore, groupwork was prohibited due to social distancing measures in schools required by the government. As a result, I further postponed the data collection. Unexpectedly, the schools closed again, but this time, teachers were able to conduct online teaching with students. Finally, I decided to conduct teacher and student interviews online so as to prevent my study from being delayed even further. The challenges I faced in conducting online interviews with teachers were fewer than those in the students' focus groups; it was almost impossible for me to observe students' responses through facial expressions and gestures - a good source of information as they did not face the camera on many occasions. Moreover, being online, interactions between students were constrained, and the focus groups were more similar to a one-on-one interview where students took turns to answer my questions despite being encouraged to engage in discussion.

My observation process was also significantly influenced by the epidemic. Due to school suspensions, teachers were unable to conduct face-to-face lessons, but could only conduct them online via Zoom. Teacher C did not organise groupings as scheduled in the physical lesson; only Teacher B arranged groupwork through the break-out function on Zoom. Compared to observing a physical lesson in person, less information on students' performance could be obtained from an online lesson. For example, I could not gain a better understanding of students' differences through their interactions with teachers and among themselves. Also, I could not observe their body language, such as facial expressions, to learn more about their learning. Without the general knowledge of students' learning in class through online lessons, I could not select students to participate in the focus groups.

I asked the teachers, therefore, to select students for me based on specific criteria. This arrangement may affect the findings to a certain extent, although I asked the teachers to choose a diverse range of students. Moreover, due to the teachers' and students' time table change during school closure, I rearranged the focus groups before the class observations, which were initially planned to take place after class observation.

Because of the above constraints due to online learning, I planned to ask the teachers to provide me with worksheets for groupwork that they had previously assigned to students for analysis. However, owing to their heavy workload in dealing with online teaching (i.e., teachers told me that they needed to spend much more time preparing teaching materials), I did not want to be a burden, so I withdrew this request.

All in all, the COVID-19 epidemic curtailed my progress in searching for relevant literature and in the data collection process because these two stages fell into the period during which the public facilities and schools were closed. Had I not had to manage the ongoing impact of COVID-19, I could review more current literature and, perhaps, collect richer data concerning students' differences and their behaviour when working in groups.

Acknowledgement

First of all, I would like to give thanks to my Lord, Jesus Christ. He gave me courage to overcome my weakness of easily giving up when in face of hardships this course entailed. He never left my side and comforted me throughout the ups and downs in the past few years.

I am also very grateful for my family. My mom in particular was very concerned for my health and wellbeing therefore frequently exhorted me to get more rest rather than staying up late to work on my thesis. Though she left me last year, I believe that she is happy to see me complete this challenging task in Heaven. I am also indebted to my husband, Danny for his continuous encouragement and the time he spent looking after our children when I attended the courses during weekends. Of course, I must have to thank my son, Clement whose determination energised my endeavour of carrying on at the moments when I wanted to give up. My daughter, Dorcas, whose laughter was the source of my happiness during the lonesome time.

Moreover, I would like to extend my heartfelt gratitude to my supervisor, Professor Sheila Trahar, for her advice, inspiration and encouragement throughout the course of my research process and writing up my thesis. I really appreciate her dedication in guiding and providing constructive feedback on my drafts, chapter by chapter. Her advice inspired me to conduct qualitative research, especially during the pandemic period when everything seemed to be suspended. With her continuous guidance, I finally completed the research process. Also, she always reminded me of the University's administrative requirements and updates which I regularly overlooked.

Last but not least, I would like to express my gratitude to all the teachers and students for their valuable time to participate in my study during COVID-19 on top of their busy schedules. Their sharing was really helpful and inspiring in enriching my understanding of the topic I explored in this study.

Declaration

I declared that the work of this thesis was carried out in accordance with the Regulations of the University of Bristol. The work is original, except where indicated by special reference in the text, and no part of the thesis has been submitted for any other academic award.

Any views expressed in the thesis are those of the author and in no way represent those of the University of Bristol.

The thesis has not been presented to any other university for examination in the UK or overseas.

Signed

Date

17 February 2021

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Chapter 1

Introduction

1.1 Introduction

In Part A of this chapter, I will briefly outline my rationale for conducting this study, state my research questions, and indicate the significance of the study to the field of economics education in Hong Kong. In Part B, I will first set the scene for my study by discussing the reasons behind the rising importance of catering for students' learning differences in Hong Kong education in recent years. This is followed by an analysis of government documents concerning the interpretation of learner diversity and suggested strategies for handling it. The final section of this chapter will provide an outline of the dissertation's chapters.

Part A Background of my study

1.2 Rationale of my study

This study is an investigation into the adoption of groupwork to cater for learner diversity in Hong Kong secondary economics education. My purpose is to examine the elements that affect such a method in addressing the increased learner diversity in Hong Kong.

As a curriculum development officer for the Education Bureau, one of my duties is to provide support, including learning and teaching materials and professional training programmes, for economics teachers to enhance their capacity to implement the economics curriculum. To support teachers' implementation of the curriculum, I regularly conduct meetings with them and observe lessons to gather information about frontline situations. During those school visits, many economics teachers reflected on the increasing learner diversity in economics classes following the change of the academic structure under the Education Reform. To address the learner diversity, many teachers claimed that they employ cooperative learning in their teaching. According to Johnson (2006), cooperative learning is a structured learning activity consisting of elements including positive interdependence, individual accountability, social skills, a specific task, face-to-face interaction and reflection and review. However, during lesson observations, I noticed that most of them did not apply the structure set out in the cooperative learning approach but simply formed students in groups to tackle some tasks. It seemed to me that

instead of cooperative learning, the teachers rather arranged collaborative learning which is broadly described as a scenario in which two or more individuals learn together (Dillenbourg, 1999). In view of this situation, in order to accurately reflect the situation in Hong Kong economics classes, I adopt the term “groupwork” in this study to represent the arrangement of forming students to work in groups. Moreover, I observed that some groupwork was organised effectively while some did not seem to achieve the purpose of addressing students’ differences. Against such a background, I planned to investigate the use of groupwork in secondary economics education. Though there is abundant research on the effectiveness of grouping on students’ learning, studies on how it can be effective in handling students’ differences and the learning of economics in the Hong Kong context are limited. In light of this knowledge gap, I wanted to conduct a study exploring the elements affecting groupwork to better inform my work in developing the curriculum and supporting teachers.

1.3 Statement of problem

Learner diversity has been the focus of educationists’ attention for some time (Yin et al., 2020). To examine elements in groupwork that are crucial to consider when addressing students’ diversity, we should have a thorough understanding of the learner differences. Scholars have identified various attributes of students’ differences such as intelligence, learning styles, motivation, anxiety, prior knowledge (I will discuss these in detail in Chapter Three). Moreover, there are various elements affecting the use of groupwork for example, group composition, teachers’ styles as well as cultural influences that may determine how students perceive learning in groups (these elements will also be discussed in detail in Chapter Three).

This study was designed to address the following research questions associated with teachers’ perception of learner differences, their corresponding arrangement of groupwork and students’ perception of the grouping arrangement. I will break down the components of each research question in more detail in Chapter Four.

1. How do economics teachers and students perceive learner diversity in economics?
2. To what extent do teachers arrange groupwork in Hong Kong economics classes?
3. How do teachers and students evaluate the effects of groupwork on catering for learner diversity?

1.4 Purpose of the study

With reference to the above research questions, the purpose of this study is to

1. examine how teachers and students perceive learner diversity in economics in order to establish whether they believe it to be an issue affecting students' learning that needs to be addressed.
2. investigate the practice of groupwork in economics and examine the extent of its use in addressing learner diversity.
3. explore the elements that help or hinder groupwork and make recommendations to teachers in relation to its organisation.

1.5 Significance of this study

Groupwork has been widely used in economics classes in Hong Kong since the curriculum reform. I therefore hope to make use of the findings of this study to review my existing knowledge about learner diversity and groupwork practice in frontline economics classes in order to better inform teachers of what to focus on when arranging groupwork. I will do this through the training programmes and resources that I provide for teachers. Moreover, in terms of curriculum development, I expect the findings of this study to provide insights into narrowing the gap between the centralised curriculum and its classroom implementation.

Part B Secondary education in Hong Kong

1.6. Learner diversity in Hong Kong

1.6.1 The increase in learner differences in Hong Kong

Diversity is a hallmark in secondary school students who face a wide range of internal changes in their physical, psychological and intellectual development during this period (Tomlinson et al., 1998). In addition, the external changes brought about by family, society and institution etc. may intensify the issues of diversity in students. In the case of Hong Kong, the change of its academic structure since the education reform initiated in 2001 is believed to have contributed to increasing learner diversity in recent years (Yin, 2020). Under the reform, the education structure was changed from “5+2+3” to “3+3+4” that is “three-year junior high school, three-year high school and four-year university.” This new academic system allows all primary school students, regardless of their competency, to receive six years of secondary education (Education and Manpower Bureau, 2005). Moreover, to increase equity and remove the

labeling effect, the government changed the Secondary School Places Allocation (SSPA) System in 2000 by narrowing the ranking of new entrants to junior secondary schools from a five-banding system to a three-banding one (EMB, 2000). Under this move, in each of the three new bands, schools now admit students of more diverse abilities. For instance, band-one schools currently would admit students in the top 33 percentile while they previously admitted students in the top 20 percentile. Noticeable differences in students' ability are found within the same band. These differences became more evident in the senior secondary school from 2009 onwards because all students are required to complete a 3-year New Senior Secondary (NSS) curriculum. The more academic nature of senior curriculum for all students and the introduction of the policies of "catering for diversities" and "integrating disabled and low ability children in an inclusive environment" in most of the schools (Education and Manpower Bureau, 2005) have made the diversity of learners more obvious (Yin et al., 2020). Due to a wide range of students' abilities, many schools complained that they were unable to maintain the high academic performance as they had achieved under the old academic system (Mak, 2008).

In addition to the change of academic structure, the change in the social context in early 2000 also resulted in increasing learner diversity. Since the handover of Hong Kong to Mainland China in 1997, more children have been coming from the Mainland to Hong Kong. These newly-arrived children (NAC) have diverse backgrounds in terms of perspective and language, and this adds to the complexity of the learning environment. Furthermore, the increasing affluence of Hong Kong society and the advancement of technology in the past decade has brought about material distraction from studying for students (Mak, 2008). Nowadays, children have easy access to computer games and social media on their digital devices, which many of them own and which distract their attention from studying.

1.6.2 Government's views of learner differences

Faced with the changes mentioned above and the challenges posed by globalisation, technical innovation (Cheng, 2009) and the rapid transition from an industrial to a knowledge-based economy, the Hong Kong government recognised that education is important in determining the future of young people and society (Education Commission, Foreword). As such, in 2000 the Education Commission announced a reform package covering four levels of the education

system. At the macro level, “student-focused,” “no-loser,” “quality,” “life-long learning,” and “society-wide” mobilisation were introduced as the new aims of education (Education Commission, 2000, pp. 3 & 6). At the meso level, the system of School Management Committee was established to increase the involvement of parents and community in school management. At the site level, education quality, standards, and accountability were emphasised through teacher professional training and quality assurance mechanisms. At the operational level, various initiatives on curriculum and pedagogy were promoted, in particular with the introduction of a new core cross-disciplinary subject in senior secondary, i.e., “Liberal Studies” and the adoption of information technology in teaching. Moreover, to assure the quality of education, schools are encouraged to conduct self-evaluation every year. By and large, all the above changes required a paradigm shift in teachers’ mentality (Fok, 2001). However, the Curriculum Reform does not alter students’, teachers’ and even society’s perceptions about the public examination especially when students only need to take one public examination i.e., Hong Kong Diploma of Education (HKDSE) Examination in their secondary education before their pursuit of future tertiary studies. The HKDSE Examination has become even more high-stakes than before. Without many changes in the requirements but with the examination being of increased importance, students’ academic performance rather than their learning needs is still the main concern of the learning and teaching of economics. Hence, instead of employing various strategies in responding to different learning needs, a considerable number of teachers still focus on past examination question practice to prepare students for the public examination.

According to the government, quality teaching should be student-centred and conducive to nurturing students’ holistic development particularly their positive values and attitudes. The extract from one of the official documents below reflects that the government is well aware of the existence of a wide range of learner differences.

“Every student is different in cognitive and affective development, social maturity, ability, motivation, aspiration, learning styles, needs, interests, and potential. The factors explaining learner differences include innate differences in intelligence, differences in social and economic background, variations in the past learning experience, variation in motivation to learn, and perhaps variations in the level

of congruence between the learner and the curriculum. The fact that a child does not seem to learn as well as other children in a certain area may be due to a number of factors which are outside the child's own control” (Curriculum Development Council, Chapter 4, 2001).

Apart from the differences listed in the above extract, the differences in cultural background between non-Chinese speaking students, new arrival children and local students have become apparent since the handover of Hong Kong to Mainland China in 1997 (Mak, 2008). Overall, student learning differences in Hong Kong are complex and multifaceted resulting from a number of factors and these are well noted by the government.

c. Government's suggestions for catering for learner diversity

In spite of the existence of learner diversity, the government recognises that all students have the ability to learn,

“We believe that all students are capable of learning and can make progress in their learning although they may differ in various ways, including their prior learning experiences, abilities and disabilities, cultural backgrounds, learning interest and preferences” (Curriculum Development Council, 2017).

After 15 years of curriculum reform, the government has recognised the merits of learner diversity and considers it an asset that could enhance students' learning capacity. This view of learner diversity can be seen in the revised official curriculum documents for secondary education published in 2017; the government expects teachers to embrace and be positive about student diversity.

“Diversity is not something to be tackled but rather something to be celebrated. By embracing diversity among students, teachers would value diversity as an asset, making it an opportunity for enhancing their repertoire of teaching skills as well as professional capacity and development” (Curriculum Development Council, 2017).

Given the above perspectives on learner diversity, the government states clearly that the goal is not to minimise the difference between students but to support them to learn more effectively and to progress, given their strengths.

“Catering for learner diversity is not about minimising the difference in student ability and performance but about enabling all students, whether they are gifted or with learning difficulties, non-Chinese speaking or from the Mainland, to learn and perform to the best of their abilities, and about using appropriate strategies to help individual students to learn better and make improvements through identifying and building on their strengths” (Curriculum Development Council, 2017).

To achieve the above objectives, the government suggests a four-level model (Figure 1) to work collaboratively with schools and teachers to cater for learner diversity. At the system level, the government provides schools with support in the form of guidelines and exemplars, funding and on-site school support, professional training programmes as well as infrastructure and facilities. At the school organisation level, school leaders are expected to identify available resources and do better planning to maximise the use of resources to support students’ diverse needs. Apart from creating a positive and inclusive school ethos, the schools should devise a whole-school policy to foster the all-round development of students by providing them with various subject choices and adopting flexible timetabling arrangements. In addition, the sharing culture among teachers to share their pedagogy of catering for learner diversity, the communication between schools and parents and community should be strengthened. At school curriculum level, schools should provide a broad and balanced curriculum and adapt the central curriculum according to students’ interest and abilities. Also, teachers are encouraged to adopt a range of pedagogical and assessment approaches and provide a wide range of learning experiences to cater for learners’ diverse needs. At class level, teachers should plan lessons flexibly and adjust their instruction with reference to their understanding of students’ learning styles, learning progress, prior knowledge and learning experiences etc. At group level, teachers are suggested to vary instructional grouping arrangements, and assign different tasks to different students and adopt cooperative learning to develop positive interdependence among students. In the subject of economics, the government promotes heterogeneous grouping to

help students gain wider perspectives from their counterparts with diverse backgrounds, and develop their multiple intelligence (CDC & HKEAA, 2007). The government also provides teacher training programmes and resources for teachers to support their use of grouping in economics (Education Bureau, 2009).

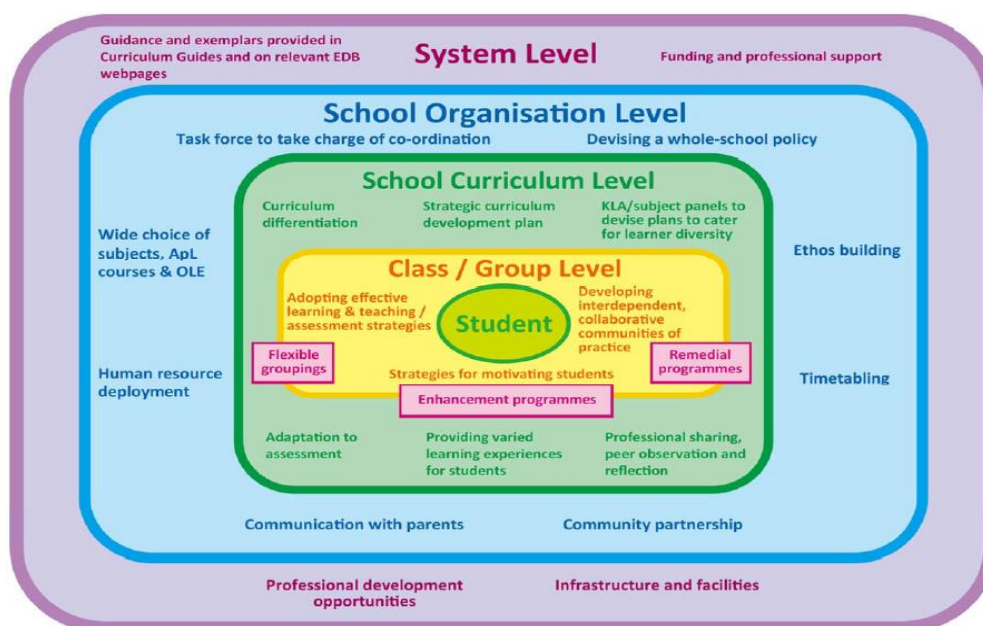


Figure 1-Catering for Learner Diversity
Secondary Education Curriculum Guide, CDC, 2017

1.7 Structure of the dissertation

Chapter Two first analyses the economics curriculum in Hong Kong secondary schools from the perspective of learner-centredness with reference to Doll's model (1995). Then I outline the studies on the effects of using groupwork in tertiary economics education and the elements affecting groupwork, including cultural factors such as CHC and Hong Kong's economic education history. Finally, I reflect on the gap between the official curriculum and its implementation in economics class.

Chapter Three reviews the literature on types of learner differences and ways to cater for learner differences, particularly the strategy of groupwork, which is the focus of this study. I then present constructivism and social constructionism, which underlie the use of groupwork in students' learning. This is followed by research focusing on the effectiveness of grouping. The last section presents my conceptual framework established from the insights gained from

reviewing the related literature.

Chapter Four focuses on the research design. It includes the research questions guiding this study, followed by my philosophical positioning, methodological approach, sample selection and the process of data collection and analysis. The chapter concludes with a discussion of the methodological and ethical concerns involved in the study.

Chapter Five presents and discusses my findings obtained from teachers' interviews, and Chapter Six analyses the data collected from students' focus group interviews and lesson observations.

The final chapter reviews the rationale for my study and presents the insights gained from the main findings of the study. I discuss the strengths and limitations of the methodological approach of qualitative case study. I provide my recommendations for secondary economics education in Hong Kong and discuss the strengths and limitations of the study. Finally, I conclude my dissertation by suggesting future research areas and reflecting on my research journey.

Chapter 2

Secondary economics education in Hong Kong

2.1 Introduction

In this chapter, I first use Doll's model (1995) to analyse the economics curriculum in Hong Kong secondary schools from the perspective of learner-centredness. Then I outline the studies on the effects of using groupwork in economics education in different contexts and the elements affecting groupwork, including cultural factors such as CHC and Hong Kong's economic education history. Finally, I reflect on the gap between the official curriculum and its implementation in economics classes.

2.2 Economics Curriculum in Hong Kong

The economics curriculum is designed in accordance with the principles of learner-centredness and generic skills development (Education Commission of the Government of Hong Kong, 2000) set out in the Senior Secondary Curriculum Guide (2001). In the following section, I will use Doll's model (1995) of learner-centred curriculum design to analyse the four main components constituting curriculum design namely objectives, curriculum framework, learning experience and assessment (Cullen, Hill, & Reinhold, 2012) with reference to the official economics curriculum and assessment guide. This analysis helps me to explore the gap between the official expectation of curriculum implementation and the classroom implementation, particularly in the area of catering for learner diversity.

I selected Doll's framework because of its focus on components contributing to a learner-centred curriculum as learner-centredness is the design principle of the economics curriculum in Hong Kong under the Curriculum Reform. According to Doll (1995), a learner-centred curriculum design should possess the criteria of 'richness', 'relations', 'recursion' and 'rigor'. By richness, Doll (1995) suggests that the learning experience provided for students should be enriching, examining layers of meanings and interpretation of experience. For relations, Doll (1995) considers the connection between elements as more critical than disconnected units. The process of learning involves the individual seeing things from multiple perspectives and understanding the effect of different contexts. According to him, recursion suggests a non-

linear approach to the curriculum, in which students reflect on learning over time, explore how their understandings evolve and change with the accumulation of knowledge and experience. Finally, rigor refers to curriculum design elements that include opportunities for integrated learning for learners, i.e., learning that is structured around issues rather than purely disciplinary content.

a. The aims and objectives of the economics curriculum

The aims and objectives of the economics curriculum (Appendix 1) stipulated in the official curriculum guide cover both the cognitive and affective domains of learners' development, though more emphasis is placed on developing students' knowledge and skills. When analysing the objective of the economics curriculum in terms of the knowledge and skills, it addresses the lower-order thinking skills e.g., understanding economic terminology and concepts, as well as the higher-order thinking skills e.g., analysing information through the use of economic concepts and theories. In addition to the cognitive aspect, the economics curriculum also intends to nurture students' affective development to become an active, well-informed, and responsible citizen for the well-being of society. From the perspective of richness, the coverage of the curriculum objectives is regarded as imbalanced as more emphasis is placed on students' knowledge and skills development. For the criterion of relations, it is seen from the objectives that students are expected to make policy evaluation with supporting data, arguments, recommendations from different economic perspectives and make informed decisions with the knowledge and skills acquired in economics.

b. Curriculum Framework

The curriculum framework for economics incorporates the core knowledge, skills, values, and attitudes that students are expected to develop at the senior secondary level. Schools and teachers are expected to develop their school-based curriculum and employ suitable learning, teaching, and assessment activities based on the framework (Appendix 2).

It aims to direct the contents to be taught and assessed in the public examination. It contains Compulsory Part and Elective Part. The former covers fundamental microeconomics and macroeconomics concepts and theories. The latter part constituting 10% of the total curriculum time, comprises two topics from which students choose one. In terms of breadth and depth of

the curriculum, this curriculum framework is regarded as rich in the sense that it provides balanced coverage of content knowledge and sufficient learning of theoretical knowledge and its application to real-life situations. In terms of relationship, the connection between the curriculum contents and real-life situations is strengthened in this curriculum where a new topic “Equity and Efficiency” is added. This topic provides students with relevant economic concepts to analyse and evaluate government policies. In order to achieve this objective of applying economic knowledge to a variety of problems and issues in a range of economic contexts, 34 hours are required to be allocated to the arrangement of enquiry activity for students to engage them in the in-depth learning process. To cater for learner differences, the government suggests teachers base their teaching on the central curriculum framework to design a proper learning and teaching sequence that best meets students’ needs and enhances their progress and achievements in learning. A learner-centred curriculum will ask students to actively involved in the design of their learning experiences, to set their own goals, to make connection between concepts and other learning experiences (Cullen, Hill, & Reinhold, 2012). For enquiry activity, the government suggests teachers allow students to choose the enquiry issues that suit their interest most with the view to catering for students’ differences. Though students’ freedom to choose enquiry topics is promoted in the training programmes I organised for teachers, a considerable number of teachers have reflected to me in my routine school visits that the teaching schedule is too tight for them to arrange enquiry activities in class. Even if some teachers tried to incorporate enquiry activities in their economics lessons, a proportion of them revealed that the more freedom was given to the students, the more difficult it was for them to manage students’ learning. Hence, those teachers would rather select the enquiry topics for their students for the sake of easier management.

c. Learning experience

The daily classroom teaching approach adopted to achieve the curriculum objectives and cover the curriculum framework is crucial for shaping students’ learning experience. To make the curriculum learner-centred, emphasis should be placed on the individual’s learning process to help them become self-directed learners (Cullen et al. 2012). Also, in order to align with the notion of learner-centredness promoted by the curriculum reform, catering for learner diversity is one of the emphases in the economics curriculum.

“Students vary in their family, social, economic, and cultural backgrounds, and have different talents and interests. Apart from the provision of Elective part for students to choose, teachers are advised to devise a variety of learning and teaching approaches including students’ hands-on tasks, communicating with peers, etc. and fostering the use of collaborative and constructive work with peers as an orientation when designing tasks for students with the view to help students develop their strength and gain confidence, competence and a sense of achievement” (CDC-HKEAA, 2007).

The government also suggests a variety of pedagogical methods to cater for learner diversity and among all methods, promoting students’ collaboration should be the focus when designing tasks with the view to nurturing students’ holistic development in economics.

For a learner-centred curriculum, Doll proposes a non-linear approach whereby students can reflect on their learning over time, analyse how their understanding evolves and is altered from time to time through the accumulation of knowledge and experience. This learning outcome can be achieved through the promotion of assessment for learning, and this is also emphasised in the government document that *“Learning should be supported by assessment, and assessment tasks in a learner-controlled mode, such as writing a reflective journal, can be part of learning. Teachers should place more emphasis on the role of continuous and formative assessment in providing feedback to students for improvement.” (CDC-HKEAA 2007).*

Teachers are advised to give timely feedback to students to make adjustments to improve their knowledge construction process in daily teaching as a kind of assessment for learning. Treating assessment as an integral part of the process of learning and teaching can facilitate students’ reflection on what they are learning and the gap between their learning and the goal. Though this concept is advocated by the government through teachers’ training, a majority of economics teachers still regard assessment as a tool to discriminate students according to their ability and make their daily teaching examination oriented.

d. Public assessment

Under the new academic system, the Hong Kong Diploma Secondary Education (HKDSE) examination has become more high-stakes as it is the only public examination in secondary school education to allow students to pursue further study in tertiary education. Teachers and students put considerable time and effort in preparing for this examination. This phenomenon is common in Hong Kong where the profound influence of Confucianism induces an examination-oriented culture and high level of parental investment in children's academic performance creates great pressure on students (Lam et al., 2002). Against this background, results in the public examination are widely regarded as a considerably critical determinant of students' future, and hence, the format and requirements of the public examination exert significant backwash effects on teachers' daily teaching. The emphasis of accuracy of answers in the economics public examination induces the practice of drilling on past-examination questions in class or even after class. Issues that can provoke students' thinking but are not closely related to the examination are rarely discussed in class.

We can see from the assessment framework of the economics curriculum (Appendix 3) that all questions in the public examination are compulsory, and students are not given any choices based on their interest. In addition, level descriptors of the assessment criteria (Appendix 4) show that only the cognitive aspects of students are assessed in the public examination, for example, the highest scores are awarded to students who can "provide precise definitions and explanations of economic terms and apply economic concepts accurately and comprehensively" and "apply mathematical and graphical tools accurately and comprehensively in economic analysis" which belong to the highest thinking order according to Bloom's taxonomy (Krathwohl, 2002). In this case, the curriculum objectives set the principles for whole-person development and learner-centredness while the high-stakes public examination is only concerned with students' cognitive aspect. The misalignment between the curriculum and public examination may sacrifice the daily learning experience of students.

By analysing the public examination results of the past years (Appendix 5), we can obtain some insights into the distribution of students' ability levels. It is found that the distribution of the results is normally distributed from the highest score 5* (Remark: 5* & 5**) and lowest score 1 and Unclassified which implies that extremes of ability exist and that most students fall into the average level (See the Level Descriptors in Appendix 4). Though ability is only one aspect

of learner diversity, it is a major concern of teachers and students in Hong Kong's examination-oriented culture.

2.3 The use of groupwork in economics

The following section will outline some examples of arranging groupwork in economics classes in different contexts to gain more insight into the rationales behind and the limitations of such an approach. As I mentioned on p.1 in Chapter One that economics teachers in Hong Kong in general adopt collaborative groupwork instead of structured cooperative learning, nevertheless, I consider some of the findings in cooperative learning below relevant to my study for they concern the elements that can strengthen the interactions in groups and these are my focus. Most of the following examples are from tertiary education contexts, however, as I stated in Chapter One that studies in relation to this topic in secondary economic education are limited, they have value for secondary economics education.

In response to the decline in enrollments in undergraduate economics courses, there is an increasing attention being paid to instructional approaches that can engage students' active learning in economics education though direct instruction is still common (Marburger, 2005). In addition, more texts illustrating how various teaching strategies such as the use of experimental learning, spreadsheets, and cooperative-learning assignments in economics classes have been published (Becker & Watts, 2001). Using groupwork in tertiary economics education has become popular in the past decades (Becker & Watts, 2001) and the corresponding research is mainly conducted through experimental studies exploring the relationship between groupwork and students' achievement and learning attitudes. Many findings indicate that groupwork can enhance students' deep learning which requires their application of economic theories to explain real-world phenomena (Cohn, 1999; Marburger, 2005; Yamarik, 2007). For example, Cohn (1999), conducted the first half of her macroeconomics course mainly through direct lectures and brief students' discussion; while in the second half of the course, she randomly divided her students into groups and assigned a simulation package as a kind of cooperative assignment which included open-ended data response questions. In her findings, students' overall quality of the economic analysis in the second half of the course was higher than that in the first half. Also, students' use of terminology indicated that their understanding of economics concepts improved in the second

half of the course.

Likewise, Marburger (2005) and Yamarik (2007) conducted experimental studies in a microeconomics and macroeconomics course respectively. Marburger (2005)'s findings show that students who engaged with groupwork have a higher ability to apply economic theories in a project which requires their higher level of economic analysis but their performance on multiple-choice was only marginally different from the students who did not participate in groupwork. In Yamarik's (2007) study, students in groups achieved higher scores in assessment compared to those who were not, but their course attendance and interest in economics were similar to the ungrouped students. One of the common findings in the above studies is that through groupwork students' learning of economics, in particular their ability to apply economic concepts to real-world situations, is improved. Maier & Keenan (1994)'s and Cohen (1994)'s meta-analyses of the studies specifically on economic education identified that mixed ability grouping, tailor-made worksheets and activities for groupwork are essential elements contributing to the effectiveness of groupwork. Hattie (2008) synthesised several meta-analyses on student achievement and concluded that the effect of within-class grouping, in which teachers group students of similar ability, is not significant and is dependent on factors such as class size (Hattie, 2008). The meta-analysis, on the other hand, demonstrates that forming mixed ability students into small groups and assigning them a task to complete has a significant positive effect on their achievement, group performance, and affective development. In light of these findings, Hattie suggests that, in order to maximise the effectiveness of groupwork, group task materials and teachers' instruction should be varied and appropriately challenging to meet the needs of students of varying abilities (Hattie, 2008).

However, there are some inconsistencies in the effects of groupwork. For example, Johnston et al.'s (2000) experimental study which consisted of surveys and in-class observations of students in second-year undergraduate macroeconomics tutorials in Australia, revealed that while students liked to work in groups, their assessment results and interest in economics did not improve. And in his three-year analysis of small group characteristics in the introductory economics class of 260 randomly assigned students, Moore (2001) found that the mixed-ability grouping does not support the critical interactions suggested by Cohen (1994) and Maier & Keenan (1994).

It seems to me that there has not been a conclusive account of the elements contributing to successful groupwork in tertiary economic education. In fact, there cannot be a “one-size-fits-all” solution to the effective use of groupwork (Allgood et al., 2015) given the different elements such as group composition, types of group activities and task design that need to be taken into account in its implementation. Though the above studies were conducted in tertiary education, the findings are relevant to this study because the research was carried out in microeconomics and macroeconomics classes, both of which are included in the Hong Kong secondary economics curriculum. This means the content, concepts and skills involved are similar and only the depth and breadth are different. At the same time, groupwork is promoted by the government and widely used in economics classes in Hong Kong. Hence researching groupwork in Hong Kong secondary economics classes remains ripe for research.

2.4 Influence of Confucian Heritage Culture (CHC)

2.4.1 Education in CHC

The above studies suggest groupwork has certain effects on students’ learning in tertiary economics education. However, they all have taken place in Western contexts; their application in Hong Kong, which is deeply rooted in Confucian heritage cultures (CHC), may meet challenges.

Various findings from empirical research showed that Asian (especially East Asian) learners are reticent and passive learners and these characteristics may result from the sociocultural aspects of Asian societies. I am aware of the dangers of essentialising cultural differences, and I adopt the classification with reference to the Global Leadership and Organisational Behaviour Effectiveness (GLOBE, 2004) report which identifies ten cultural clusters—Anglo, Latin Europe, Nordic Europe, Germanic Europe, Eastern Europe, Latin America, Sub-Saharan Africa, Middle East, Southern Asia and Confucian Asia. Since there is possibility of cultural clusters transcending national boundaries, the historical development of different regions is considered in the study. The results of the study indicate that countries within a cluster are more similar to each other, although they are substantially different from those in other clusters (Joy & Kolb, 2009).

Confucianism is believed to be the fundamental framework for the study of the Chinese people,

because it is still an indispensable part of the “psycho-cultural construct” of contemporary Chinese people ranging from intellectuals and peasants, and a defining feature of Chinese thinking. In fact, the history of Chinese education is nearly identical to that of Confucian education (Mak, 2008). Because of this, the applicability of groupwork in Hong Kong, which is deeply rooted in CHC, needs further exploration through an understanding of the characteristics of Chinese learners through a sociocultural lens.

2.4.2 CHC and perception of learning

Culture is defined as “the ideas, customs, and social behaviour of a particular person or society.” in the Oxford Dictionary. “Culture can be conceptualised as shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations” (House et al., 2004, p.57). Conceptually, it can be seen as a collection of folk theories or systems of lay belief that are formed by a person’s social experiences. These theories have an impact on people’s basic cognitive processes including individual and group interpretation, causal attribution of social behavior and judgment and decision-making, among others (Spencer-Rodgers et al., 2012). Understanding how Asians perceive education provides us with insight into how cultural beliefs affect ways of thinking and behaviour in learning.

Confucianism has tremendously influenced the Chinese educational philosophy and learning traditions (Bush & Qiang, 2000). Many previous studies often regard Confucian influences as a key reason for the alleged reticence of students in Asian regions. For example, Cortazzi and Jin (1996) attribute the perceived passive learning behavior of Chinese students to the peculiar Chinese culture of learning that has been deeply embedded in traditional Chinese principles of education since the Confucian era. It is believed that the students showed great respect for the knowledgeable teacher by their passivity and reticence in the Confucian time (and a long time later). Listening to and obeying the teacher were desirable behaviours of students, while questioning the teacher was regarded as an unacceptable practice (Cheng, 2000). The second feature of the learning styles of Chinese students is that they regard teachers as authoritative figures, and hence sit quietly and obediently in the class to keep silent learning, as Ballard (1991) illustrates

“...a very strange feeling at first...All those watching silent faces, I

suppose...they certainly do work hard...I've got no complaints about that. They do all the assignments and any extra work I suggest...they are good students, but you don't get much reaction out of them..." (Economics lecture) (quoted in Ballard, 1991, p. 2 cited in Sit, 2013).

Such a view can still be common in Western literature. Although the hard work of Chinese students is recognised, they are still considered passive-obedient-learners who rarely challenge the knowledge passed on during classes. At the same time, Chinese teachers perceive their role as guiding in the right ways and hence make their authority very clear (Biggs, 1988). This situation is probably more common in primary and secondary students than in those in higher education.

According to Cortazzi and Jin (2001), there are two concepts of learning and teaching. One is similar to a hierarchical line in which students consider teachers to be omniscient and therefore accept all knowledge transmitted by them. The other is parallel to a horizontal line in which students are considered to gain knowledge by engaging in activities and expressing their own thoughts. Under this conception, the relationship between teachers and students is more equitable. Chinese learning culture leans towards the first conception above. It is usually observed that teachers dominate the activities in a Chinese classroom while students' enquiry or discussion rarely occurs (Chan, 1999). The second concepts is usually related to Western learning contexts and emphasises equity, individual development, independent and critical thinking, and collaboration. The induced learning practices emphasising knowledge construction are informed by the principles of constructivism and social constructionism which I will discuss in Chapter Three.

Interestingly, the word "knowledge" in Chinese consists of two characters. One is "Xue" (to learn) and the other is "Wen" (to ask) (Liu & Littlewood, 1997; Cheng, 2000). It means that questioning and enquiring is an essential behaviour during the quest for knowledge. In this light, it is believed that Chinese students employ a deep learning approach. Instead of being passive, Chinese learners are reflective as they usually reflect thoroughly before asking question. Accordingly, it is overly simplified to claim that Chinese students are obedient and passive rote-learners (Cheng, 2000).

It can be assumed that the conception of learning should be consistent across social, cultural and educational contexts among the sub-groups of Chinese students. Hence, it would be helpful to explore students' learning perceptions and experience when they have diverse cultural and educational backgrounds. This is especially true for Hong Kong where students are influenced by both CHC and western culture due to its historical background.

2.4.3 Perception of groupwork in CHC

Many of the studies on groupwork are built on Vygotsky's school of thought, which articulates the profound social and cultural orientations of human psychology (Mak, 2008). The following section will examine how CHC students perceive grouping with reference to the relevant cultural dimensions of Trompenaars and Hampden-Turner's (1997) typology and various studies about CHC with the view of shedding light on how these cultural factors shape the implementation of groupwork in Hong Kong economics classes.

- ***Individualism vs Collectivism***

Hofstede's (1980) individualism–collectivism framework is popularly used in assessing cultural differences in cross-cultural studies. Though scholars such as Oyserman et. al., (2002) criticised its overly broad definition, I still find it a simple and useful instrument in explaining various attitudes, perceptions, and behaviours of individuals in different parts of the world (Oyserman et. al., 2002; Taras et al., 2010). People in more individualistic cultures have a stronger propensity to see themselves as distinct from others compared to those in less individualistic cultures and prioritise individual goals rather than group goals. In individualistic societies, relationships between individuals are loose and everyone is supposed to take care of himself and his immediate family (Hofstede, 2011), also, the development of trust among people is the result of experiences in which they faithfully fulfill their respective roles and responsibilities and share results equitably (Phuong-Mai et al., 2005). On the other hand, collectivist cultures such as CHC believe that every person belongs to one or more tight “in-groups” (extended family, clan, or organisation) from which he/she cannot separate him/herself via birth and possible later events. The “in-group” protects its members' interest, but in return expects their lifelong loyalty. People in collectivistic communities may be more impacted by their personal loyalty and relationships with significant others (Popov et al., 2012). Students in CHC tend to work collaboratively, a collectivist attempt, to share knowledge and handle their

learning tasks as perfectly as possible (Biggs, 1998). As a result, the collectivist community is strongly integrated while the individualist community is loosely integrated (Popov et al., 2012).

Individualism–collectivism may also affect how people perceive power distance, which refers to the degree to which disparity in power is recognised and viewed as natural by the less powerful people in a society. There is disparity within any society, but the degree to which it is accepted differs from one culture to another (Popov et al., 2012). In turn, the concept of power distance will impact whether one prefers to use direct or indirect styles of communication. In collectivist and high-powered distance cultures such as Thailand, Hong Kong, Japan, Korea, and Taiwan, individuals have an explicit interaction if it is a top-down direction (Park et al. 2012).

In addition, in terms of cooperative/competitive behaviours, many academics have known for a long time that East Asians prefer to compromise in bargaining situations and cooperate within organisations than do Westerners (Leung, 1987, Spencer-Rodgers et al., 2012). For example, faced with a conflict between two opposing groups, members of collectivist cultures (e.g., Hong Kong Chinese) concerned with the preservation of long-term social relationship adopt a negotiating strategy that seeks to resolve a mutually beneficial compromise, while people of individualist cultures (e.g., Americans) adopt a more antagonistic, competitive tactic that attempts to maximise benefits for one side (Leung, 1987). The dialectical tendency to embrace and expect change while tolerating conflicts, and to adopt the ‘middle way’ i.e., ‘Zhong Yong’ in Chinese may explain East Asians’ preference for compromise and cooperation (Yao et al., 2010). These forms of decision-making and negotiation have a great influence on dyadic relationships, group dynamics and conflict management.

- *Universalism-Particularism*

Western cultures tend to be oriented towards universalism, stressing rules, laws and justice, while CHC is more often identified with particularism, emphasising the importance of interpersonal relationships (Nguyen et al., 2009).

Another implication of particularistic culture can be reflected in how learners perceive the composition of groups. For example, Leung & Bond (1984) found that in close in-groups, such

as among peers, Hong Kong students prefer to use the equality principle, but the fairness principle when dealing with out-groups, such as outsiders. Such variance indicates that Hong Kong students' preference for reward allocation may depend on the precise nature of different group relationships. This may suggest that the use of an equality-based grade allocation suggested by western cooperative learning researchers is (to be discussed in Chapter Three), therefore, unlikely to provide motivation in students under CHC. In addition, research has strongly suggested that a heterogeneous grouping with mixed ability is preferred (Saleh et al., 2005) and this is usually how groups are formed in Hong Kong economics classes to address the issue of learner diversity according to my observation in work. This type of grouping emphasises cognitive rather than affective factors (such as relationships) and it is therefore unclear whether such grouping will mobilise students from Hong Kong who normally fall directly into the particularistic domain (Phuong-Mai et al., 2005).

- *Affective vs Neutral and Specific vs Diffuse*

These two dimensions relate to communication. "Affective vs Neutral" concerns how the nature of our interactions is conveyed—whether our emotions are displayed (affective) or mediated and disconnected (neutral). "Specific vs Diffuse" is about one's communicative style, whether one tends to get 'straight to the point' (specific) or to first 'beat about the bush' (diffuse). As expected, cultures vary in direct communication style. Direct and assertive enquiries may be regarded as potentially face-threatening actions in less individualistic cultures where group unity is more highly valued (Merritt & Helmreich, 1996). For example, Littlewood (1999) remarks that students from East Asia are concerned with preserving harmony among their groups. Therefore, they may be hesitant to participate in argumentative dialogue, in which competing views are confronted and critically examined in order to evaluate and justify them. Littlewood therefore concludes that East Asian students in an open classroom would be reluctant to "stand out" by voicing their views or raising questions, especially if this could be seen as expressing public disagreement. A similar result was obtained in a case study by Nguyen, Terlouw & Pilot (2009) on the outcomes of cooperative learning within an Asian context. They employed the cultural aspects of the typology of Trompenaars and Hampden-Turner (1997) and different CHC studies in the research, and found that for peer-to-peer interactions, CHC students prefer a neutral (i.e., emotionally mediated and disconnected) and diffuse communication style (i.e., "beat around the bush") and appear to keep their opinions

private rather than share with others. They deal diffusely with conflicts or disputes and give priority to group harmony at the cost of reaching a final agreement (Phuong-Mai, Terlouw & Pilot, 2009). Moreover, Chan (1999) discovered that maintaining “face” is important to CHC learners who interpret poor performance as losing face and thus refuse to verbalise their views in class for fear of being incorrect which may lead to humiliation (Chan, 1999). The resulting communication style of students in Hong Kong is predisposed to be neutral and diffuse.

2.5 History of Hong Kong education

History plays a role as well. Observing 158 S.3 students in two Hong Kong secondary schools, Marton et al. (2010) posited that students are already in the habit of taking a passive role in teaching-led learning in the long history of direct instruction in Hong Kong classrooms. Therefore, they do not consider expressing their own opinions and solving problems on their own as effective class instruction. Their resulting behaviour in the classroom would be to participate very little in-class discussion and wait for the teachers’ answers. Furthermore, students’ achievement in economics in Hong Kong has long been measured by the written examinations which do not assess their collaboration and communication skills. When considering cultural differences and educational practices, including economics, it is worth investigating what elements influence groupwork in Hong Kong economics classrooms. Any particular behaviours observed may be a result from a combination of various elements. For example, the reticence and passivity observed in class may be due to teachers’ improper teaching methods, students’ lack of necessary language skills or learning motivation, irrelevant subjects, lack of relationship between teacher and student, etc. (Cheng, 2000). Of course, these elements are interrelated.

2.6 Summary

When analysing the central economics curriculum with reference to Doll’s model (1995) from the perspective of learner-centredness, I consider that the curriculum objectives, curriculum framework, instructional approach suggested, by and large, fulfil the criteria of a learner-centred curriculum design i.e., ‘richness’, ‘relations’, ‘recursion’ and ‘rigor’, except the design of the public examination which still emphasises the accuracy of answers and cognitive perspective of students.

Though the studies of effects of groupwork on students' learning in tertiary economics education could not give us a conclusive result, their findings of the elements such as group composition, and group task design are valuable references for my present study. Moreover, the literature of the characteristics of learners of CHC provide me with insights into how students' perception of working in group and communication styles affect the effect of groupwork on their learning.

Chapter 3

Literature Review

3.1 Introduction

This chapter will first review the literature on types of learner differences to gain a comprehensive understanding of factors contributing to students' learning differences. It is followed by a review of ways to cater for learner differences, particularly the strategy of groupwork, which is the focus of this study. I then discuss constructivism and social constructionism, the underlying principles directing the use of groupwork in learning economics promoted by the government. Finally, I present my conceptual framework established from the insights gained from reviewing the related literature.

3.2 Learning differences

3.2.1 Factors attributed to learner differences

Learner diversity has long been an issue in education drawing attention from educationists (Yin et al., 2020). Having consolidated the views of different scholars and making reference to my teaching experience, I will discuss features which are more relevant to Hong Kong's situation. They are intelligence, learning styles, motivation, anxiety and prior knowledge.

(i) Intelligence

Student learning differs because student learning traits differ. According to Jonassen & Grabowski (1993), individuals have different learner traits which range from specific abilities to general styles and the different learner traits contribute to learner diversity.

The first trait is intelligence. It plays an essential role in learning and teaching, so is crucial to the understanding and description of individual differences. It forms the basis for most variations in cognition and many other personalities (Jonassen & Grabowski, 1993). In 1904, Binet, a French psychologist designed a set of intelligence scales called "Intelligence Quotient" (IQ), a single measure of intelligence, to reflect the intelligence of a person and to identify learners with learning difficulties. According to the IQ theory, the IQ score for average individuals is 100; individuals with IQ scores above 130 are defined as gifted; those with scores below 70 are defined as having learning difficulties (趙志成 & 何碧愉, 2009). At that time,

this instrument tool was valuable to educators because it was easy to categorise learners into different levels of intelligence. It is believed that those who have higher IQ scores are more intelligent and will perform better in their learning and vice versa. The intelligence theory, however, is problematic in the sense that it is too complex and ambiguous and cannot be correlated with precise learning requirements of teaching approaches (Jonassen & Grabowski, 1993). In addition, some scholars conclude that intelligence is innate and inherited (Jensen, 1973 & 1987), and therefore some uncontrollable causes can be linked to the success or failure of students' learning. In terms of teaching, learning differences can only be resolved by adjusting the teaching pace, and the breadth and depth of the contents. Another scholar holds the "enquired" stance about intelligence theory, arguing that education can influence the intellectual development of students directly or indirectly (Sternberg RJ, 1985). In addition, she and Detterman (1986) broadened the definition of intelligence to emphasise the importance of metacognition which refers to people's understanding and control of their own thinking processes (Sternberg & Sternberg, 2011). This view recognises the role of teachers in helping students to develop their potential through the educational process.

With the progress of time, many scholars view that intelligence is not a single construct but a complex concept. For example, the multiple intelligences theory proposed by Harvard University scholar Gardner (1983). The primary intent of this model is to convey the complexity of the concept of intelligence which covers a variety of types of intelligence, a complex set of abilities.

Gardner (1983) indicates that intelligence is a complex set of abilities and skills that are present in people differentially. Seven forms of intelligence, namely logico-mathematical, linguistic, musical, spatial, bodily-kinesthetic, interpersonal and intrapersonal are identified, after Gardner and his colleagues analysed the literature on cognitive abilities in normal people, pathological breakdowns in humans, and cognitive processing in special group of individuals. The differences in these abilities can predict and explain how well people acquire different skills and learn different knowledge. Gardner emphasises that the theory of multiple intelligences does not intend to classify and characterise learners into a specific type of intelligence because everyone has a unique intelligent combination system (Gardner, 2011).

The theory of multiple intelligences brings important implications for education, particularly Hong Kong's education which focuses on students' academic performances. First, learner differences should not be measured with a single indicator like IQ but recognised that they are due to the complexities of learner's intelligence (Gardner, 2011; Díaz-Lefebvre, 2004). In light of this, teachers should understand the characteristics of each student with the view of catering for individual needs. In addition, it is important for schools to develop students' multiple intelligences instead of attending to one or two intelligences, for example logico-mathematical and linguistic skills. Though it may not be feasible for schools to adopt different curricular to match with students' intelligence development, teachers are encouraged to employ wide range of instructional methods responding to students' individual needs by referring to the unique intelligence(s) they possess, as Gardner proposed "A 'matching system' should help ensure that a student can rapidly and smoothly master what needs to be mastered, and thus be freed to proceed further along both optional and optimal paths of development" (Gardner, 2011, p.408). Moreover, instead of a standardised assessment, different presentation modes and diverse assessment methods should be employed to help students understand disciplinary knowledge and at the same time mobilise their several intelligences. This is because a single assessment method cannot thoroughly reflect the learners' diverse strengths (Díaz-Lefebvre, 2004; Gardner, 2011). Furthermore, the ultimate purpose of assessment should not merely be for the sake of differentiating students' ability but instead should help teachers and learners to identify the learning gap through providing feedback, adjusting teaching methods and evaluation (Kaftan et al., 2006; Bennett, 2019) students should not regard assessment as a 'judgement day' but another opportunity to learn (Armstrong, 2009). In a nutshell, the development of theory of intelligence contributes to educators' understanding of students' abilities, acceptance of learners' differences, and provides teachers with insights into the adoption of various pedagogical and evaluation strategies in enhancing students' learning.

(ii) Achievement Motivation

In a broad sense, motivation means what energises and guides behaviours, and so is highly significant to many important outcomes of development. Some experimental literature divided motivation into intrinsic and extrinsic motivation (Sansone & Harackiewicz, 2000). Intrinsic motivation means to do something that is naturally interesting or pleasurable for its own sake, and extrinsic motivation means to do something because it brings about an independent result

or reward (Sansone & Harackiewicz, 2000; Ryan & Deci, 2000). From the educational perspective, the degree of motivation is refined as achievement motivation, referring to the motivation related to the performance of activities in which expectations of quality are operational (Wigfield et al., 2007) and the quest to achieve success with correlated positive impacts and the prevention from failure and the correlated negative impacts. Achievement motivation is expected to be an important positive predictor for academic success (Busato et al., 2000).

With respect to the implications for teaching, local scholars, Chiu and Wong (2003) have explored how to enrich students' learning under Hong Kong's mandatory education system. They find that motivation is one of the factors contributing to learning differences in Hong Kong. Given this, they propose that teachers must adjust their mentality and strategies to accommodate individual differences in students. Teachers should provide timely and quality feedback to students, create an encouraging, positive and safe learning atmosphere to promote students' self-confidence and raise their learning motivation (趙志成 & 何碧愉, 2009). In my regular school visits, I have observed that some economics teachers incorporate daily life examples as enquiry tasks to arouse the learning interest of students, particularly those who have relatively lower achievement motivation, by connecting their learning to their daily life. Moreover, some teachers shared with me that they adopt various formats of evaluation such as presenting economics concepts with cartoons or videos to check students' mastery of economics concepts with the aim of arousing their intrinsic learning motivation.

In summary, different learning motivation theories indicate that although students have individual differences in learning motivation, teachers can have an effect on learning motivation through instructional design. The key is whether the teacher understands and accepts the individual differences of the students, and responds positively by designing tasks suitable for students' abilities and providing them with timely feedback concerning their learning to help them strive for success.

(iii) Learning style and learning differences

“Learning styles refer to the concept that individuals differ in regard to what mode of instruction or study is most effective for them” (Pashler, et. al., 2008, p.105). A number of

researchers started developing methods to assess learner preferences in the 1960s and 1970s. Learning styles, in essence, are applied cognitive styles, removed one more level from pure processing ability. As evidence of this removal, most learning styles are based on the learner's self-reported preferences which are dependent on how he/she feels is the most effective learning method. In addition, students' learning style can be changed in different tasks or in different domains (Cheema & Kitsantas, 2016).

Different scholars have different learning style classifications. One of the common classifications is that it is possible to classify learning styles into visual, auditory and kinesthetic. Visual learners think in visual images and learn effectively through pictures. To help them learn better, they make use of the non-verbal cues of the instruction or facilitator such as body language. As such, they prefer sitting at the front of the classroom. Learners with auditory style incline to discover information through listening and process information through pitch, emphasis, and tempo. Reading out loud may help them to learn though they may not have a complete understanding of the written contents. With respect to kinesthetic learners, with an involved "hands-on" approach, they learn best. These learners are in favour of interaction with the physical world. Kinesthetic learners have a hard time being on track much of the time and may become unfocused (Gilakjani, 2012).

The Dunn and Dunn learning-styles model (e.g., Dunn, 1990), Kolb's (1984, 1985) Learning Styles Inventory, and the Learning Styles Questionnaire by Honey and Mumford (1992) are some of the most common learning-style schemes (Pashler et al., 2008). "Learning style is the way in which each learner begins to concentrate on, process, absorb, and retain new and difficult information" (Dunn and Dunn, 1993, p.3). The interaction of these elements happens in everyone differently. It is therefore important to determine what and how to attract the attention of each student so that his/her long-term memory can be generated and sustained and how to respond to his/her natural style of interpretation. It is also essential to use a comprehensive learning style model that identifies the strengths and preferences of each individual across the full spectrum of physiological, sociological, psychological, emotional and environmental elements to reveal the natural tendencies and styles of students (Pashler et al., 2008). With respect to the classroom instruction, there is a need for various methods designed to complement individual differences. Teachers should also make a deliberate effort to avoid a

onesize-fits-all approach and recognise the need to strengthen the teaching methods and evaluation tools they adopt in their class (Dunn et al., 2009).

Kolb's (1984, 1985) Learning Styles Inventory, particularly within the United States, is a common scheme. It considers the learning processes of people to vary in two dimensions i.e., the preferred mode of perception (concrete to abstract) and the preferred mode of processing (active experimentation to reflective observations). Based on people's location along these two dimensions, it further classifies individual's into four main categories, namely divergers (concrete, reflective), assimilators (abstract, reflective), convergers (abstract, active), and accommodators (concrete, active). Individuals are required to conduct self-assessment to reflect on whether they can gain a better understanding when listening and observing closely, or whether they like to evaluate ideas and break ideas into pieces when learning (Pashler et al., 2008).

It is argued that the validity of the theory of learning styles is questionable. The main reason is that this theory assumes that the cognitive styles of learners are accurately expressed in their perceptions, which means that learners should be conscious of how knowledge is interpreted and have developed some internal constructs of themselves as learners. There is nothing to guarantee that learners answer the learning style questions accurately or according to some construct that suggests how they think others want them to respond (Jonassen & Grabowski, 1993).

With respect to instructional strategy in catering for different learning styles, Sternberg (1997) suggests the ideal learning state for learners is when the environmental teaching styles match the learners' preferred learning styles, and she (1999) encourages teachers to adopt a wider range of teaching and assessment methods; "Felder (1996) encourages science teachers to "use physical analogies and demonstrations to illustrate the magnitudes of calculated quantities" (p.11). The advocates of the Dunn and Dunn Model give another kind of comprehensive advice, which prescribes not only information communication strategies, but also the design, for example furniture, lighting, of the learning environments. Throughout the literature on learning styles, the repeated implication for practice is that it is the duty of teachers to change their teaching style to suit the learning style of their students. However, Tinajero and Paramo (1997)

argue that this exhortation is both unhelpful and impractical, because it appears to mean that a teacher is obliged to respond appropriately to learners with diverse learning styles in a class. In addition, those theorists who support the notion that learning styles are fixed rather than flexible should accept that teachers can also resist change and teachers' styles can also be shaped by social, cultural and political variables (Coffield et. al., 2004).

Notwithstanding the critiques of learning styles, I believe that every learner has his/her preferred learning style which s/he may not even realise. Teachers should try to understand the learning styles and learning characteristics of their students in the class, and devise responsive teaching strategies to cater for their learning needs. However, in reality, the large class size in Hong Kong makes many of the above strategies difficult though not impossible to implement. What teachers can do is as far as possible to adopt diversified teaching methods and forms of assessment, and try to strike the balance between the constraints they face and students' well-being. For example, by incorporating short videos in teaching and group discussion in a lesson, teachers can take care of some visual learners and students who like to study with their peers, and thus strengthen classroom participation and memory (趙志成 & 何碧愉, 2009).

To summarise, reviewing literature on learning styles gives me some insights into learning and teaching in economics: First, it is important for teachers to understand that different students have their preferred learning methods and habits, and there is no good or bad learning style, they should accept and respect each student. Secondly, there is no one-size-fits-all teaching method that can cater for students with different learning styles, rather teachers should adopt a wide range of teaching and assessment methods. Thirdly, though it is difficult, in large classes, for teachers to take care of students with different learning styles individually, an effective approach to teaching integrates a range of instructional strategies and learning and teaching materials in order to acknowledge learner diversity and enhance their learning capacity.

(iv) Anxiety

Anxiety, "part of an individual's emotional structure, is most commonly used in modern psychology to denote a transitory emotional state or condition characterised by feelings of tension and apprehension and heightened autonomic nervous system activity" (Spielberger, 1972, p.24 cited in Jonassen & Grabowski, 1993). This emotional state would induce both

negative and positive effects which could promote and hinder students' learning (Jonassen & Grabowski, 1993). Izard (1972) indicates that individuals differ in the intensity of their reactions to anxiety, based on their ability to experience it and the level of anxiety-causing stimuli. Izard (1972) defined three types of anxiety: (1) Trait anxiety, a general personality trait which means a semi-permanent predisposition to encounter a similar level of anxiety in various contexts. (2) State anxiety refers to anxiety that varies based on an incident or combination of incidents encountered at the time. (3) Situation-specific anxiety, which describes the anxiety that arises continuously in a given situation over time (Izard, 1972).

Students' different levels of anxiety give rise to their varied learning behaviours in class. For example, students who are anxious when speaking in public may find expressing ideas in the group difficult. Also, different levels of test anxiety, a situation-specific anxiety in Izard's classification (1972), may affect students' academic performance (Sung et al., 2016). In terms of instructional strategy in addressing students' anxiety, it is suggested that instructional conditions that remediate the deficiencies of the high-anxiety student include anxiety-reducing conditions such as: establishing a verbal, expository context familiar to the learner, using structured materials such as programmed instruction; providing gradual transitions, providing abundant opportunities for success, etc. Conditions that can capitalise on the preferences of the low-anxiety student and challenge the high-anxiety student include: using an objective, formal evaluation style, using visually-based instruction, providing opportunities for overt practice, providing feedback and using achievement-oriented instruction. Instruction conditions that remediate or compensate for the deficiencies of the low-anxiety student include increasing motivation and stimuli for repetitive tasks, arousing the learner with stimulating colours, novelty, or surprise, using monetary incentive, etc. According to my teaching experience and some economics teachers' sharing, students' different sources and degree of anxiety do affect their academic performance in economics. For example, some students are anxious about mathematics and graphics to such an extent that they would choose to give up learning the parts involving mathematical calculations in the curriculum. However, they are essential elements in studying economics, and hence those students' academic results are adversely affected. Their anxiety about mathematics may be due to the intelligence aspect or the development of related prior knowledge in junior secondary.

(v) *Prior Knowledge*

Another reason for learner diversity is the difference in prior knowledge learners possess. Prior knowledge refers to “the knowledge, skills or ability that students bring to the learning process” (Jonassen & Grabowski, 1993, p.417). It may be the prerequisite knowledge that a learner needs to bring into the learning process when acquiring new knowledge. According to Jonassen & Grabowski (1993), prior knowledge can be divided into prior knowledge/achievement and structural knowledge. In general, the former refers to the use of pre-texts to determine a learner’s entry-level knowledge or abilities related to a specific content domain, while the latter refers to a learner’s comprehension of the constituent concepts and the relationships between them in a given content domain. Jonassen & Grabowski (1993) suggest a negative relationship between the level of prior knowledge and the need for instruction help. They state that when a learner possesses more prior knowledge, he/she tends to need less instruction assistance. Also, the less congruent the new information is with the pre-existing knowledge, the more important it will be to overtly contrast the idea of the learner with the new information, rather than present the information in a solely expository way. Based on some studies, Jonassen & Grabowski (1993) found that high levels of structural knowledge would strengthen learners’ skills of problem-solving, transferring learning, understanding of the material to be learned and retention of information. In addition, learners with more structural knowledge find it easier to acquire learning strategies such as evaluation of current facts, analysis of key concepts, creation of metaphors and analogies, and prediction of outcomes.

3.2.2 Summary

In summary, students’ differences in learning outcomes are influenced by a number of elements, some are personal, innate and unchangeable, and some can be altered. Catering for individual difference is one of the key areas in Hong Kong educational reform (Curriculum Development Council [CDC], 2002). Learner diversity has become an issue that has drawn the attention of policy makers and teachers (Mak, 2008; Curriculum Development Council [CDC], 2017; Yin, 2020) in recent years. Influenced by CHC educational culture, teachers, parents, and society have placed much emphasis on academic achievements and using examination results to distinguish students’ ability and performance. Theories of multi-intelligence, learning motivation and learning style, developed mainly in the USA and the UK, have, to a certain extent, impacted on Chinese traditional teaching concepts, emphasising that we should

understand and accept individual differences of students from multiple perspectives, and avoid using a single standard to evaluate them. These theories are considered relevant to Hong Kong's current education context in which learner-centredness and catering for learner diversity are being advocated by the government and implemented by certain teachers in classes. However, given the high-stakes public assessment and society's deep-rooted belief in using examinations to differentiate students, there is an enormous backwash effect on daily learning and teaching. Most of the time, teachers adopt the public assessment format in internal assessments with the aim to help students get familiar with the format, however, this practice limits the objectives and modes of assessment. Against this background, it is noteworthy for teachers to reflect on the relation between assessment and students' learning. The gap between theories in learner diversity and practices carried out in class needs a great effort to shift the learning and teaching paradigm in economics.

3.2.3 Ways to cater for learner differences

Regarding the ultimate goal of caring for differences, local scholars Chiu & Ho (2009) pointed out that in CHC, people always expect weak students to catch up with qualifying scores. However, if we believe that each student is unique, we should not expect all students (especially those with the lowest learning ability) to achieve the same results as the high achievers after the learning process. As such, when we address the issue of individual differences, we are not trying to reduce or eliminate the gap between the strong and the weak but to help them to make progress based on their own foundation level. Therefore, to achieve this goal, I believe that teachers should adopt a wide range of approaches to motivating students, particularly the less able students, sustain their thirst to learn, and help them to better utilise their strengths to progress based on their foundation point.

Teachers have sufficient classroom experience and understanding of students' strengths and weaknesses and are therefore expected to play a key role in addressing learner diversity (Chappuis, 2009). In terms of instructional approaches, scholars commend different ways to address learner differences. For instance, for less able students, teachers could make adaptations to classroom activities, and instructional materials and even include personalised methods that can arouse their learning interest (Westwood, 2008). For the talented and gifted, teachers should adopt strategies to help them to learn faster and at more advanced levels. For

example, teachers can compact the curriculum by removing the unnecessary drills and arranging extended work; and organise expert grouping to stretch students' insights and capacity through conducting research (Biggs & Moore, 1993; Winebrenner, 1992).

In addressing learner diversity, the government suggested various learning and teaching strategies in the official documents and teacher training programmes. Among all the measures, learning in groups is promoted heavily in Hong Kong's secondary economics education. This can be seen from the government documents and the number of training and resources provided by the government.

“Co-operative learning or peer learning is considered to be effective in dealing with learner diversity. In co-operative learning, not only can the lower-achievers learn from others, the higher achievers can also benefit from being tutors in a group setting. In many cases, teamwork also enhances the development of multiple intelligences that exist among different members in a group, and often helps build self-esteem for all because everyone contributes one way or another” (PSHE KLA Guide, 2002).

As I mentioned in Chapter One that many economics teachers arrange groupwork for students to address the issue of learner diversity. In the following section, I will discuss the theoretical principles underpinning the use of groupwork in addressing inclusivity with the view to understanding the impacts of such an arrangement on students' learning.

3.3 Theoretical principles underlying economics learning

a. Constructivism

The Economics Curriculum Guide states clearly that learning economics is a knowledge construction process, and “(T)eachers need to create a learning context in which students can be actively engaged in the construction of new understandings.” (CDC-HKEAA, 2007, p. 35-36). This concept of knowledge acquisition originates from the constructivist theory which proposes that every individual mentally constructs the knowledge of the world through cognitive processes (Young & Collin, 2004). It emphasises learners' active involvement in an integrated and complex knowledge creation process in which the learner uses their prior

knowledge to engage in sense-making activities (Piaget, 1976, 1978, 1980b), occur through social interactions (Bruner 1990; Blumer, 1969) and related to specific contexts (Anderson, 1982). The learning process requires learners' use of different strategies, many of which necessitate higher-order thinking (Foote et al. 2001). This emphasis on the interplay between individual, social, and communication dimensions in learning has produced a variety of analogies to conceptualise learning, including "knowledge acquisition," "participation," and "knowledge creation" (Paavola, Lipponen, & Hakkarainen, 2004; Sfard, 1998).

Compared to a traditional instruction one, a constructivist learning environment should be learner-centred by being attentive to individuals and respecting every student's background (Richarson, 2003). Emphasis should be placed on knowledge construction instead of learning replication, and therefore, teachers should adopt authentic tasks such as real-world setting in a meaningful context rather than out-of-context abstract instruction in their daily teaching. Also, a constructivist learning environment should develop students' metacognition through thoughtful reflection on their learning process. Moreover, it should support students' collaborative construction and creation of knowledge through group dialogue (Jonassen, 1996; Richarson, 2003). The perspective of constructivists is closely associated with many theories, particularly the developmental theories of Jean Piaget and Vygotsky's social cognitive theory (Blatchford, et al., 2003; Shunk, 2000).

(i) Jean Piaget

Jean Piaget (1896-1980) theorised that learning occurs when new information becomes closely connected with experience and prior knowledge. Interactions with peers are essential in logical thought in order to disequilibrate a child's egocentric conceptualisations and to provide feedback to the child concerning the validity of logical constructions (Fosnot & Perry, 1996). Given the advantages of peer interactions in students' knowledge construction, arranging groupwork in class to allow students to discuss, argue, express and hear one another's opinions is essential in enhancing their learning.

(ii) Vygotsky

According to Vygotsky (1896-1934), power, economy, politics, and social factors all play a role in people's acquisition of understanding and knowledge (Richardson, 2003). In this light,

he developed a cognitive development theory that focuses on an individual's ability to learn how to use socially appropriate tools such as money, writing implements and computers, and culturally based signs such as language, writing and number systems in a given culture, particularly with more knowledgeable peers or adults. Through this process, the individual's higher mental functions such as language, logic, problem-solving skills, and moral reasoning can eventually be developed (Doolittle, 1997). This learning approach is regarded as "cooperative" or "cultural" learning.

The centrality to Vygotskian cognitive theory is the "zone of proximal development," which he defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). He suggested that learners have unique levels of development in any given domain that can be assessed and that there is an opportunity for further growth within each domain. Because of this, he considered assessment tasks that concern only a learner's problem-solving skill as insufficient, and argued that assessing the progress of a learner in concept formation when interacting with knowledgeable others, such as teachers or peers, is a much more feasible way of measuring her/his skills (Fosnot & Perry, 1996). The zone of proximal development is a dynamic concept meaning it can change because of cognitive growth and development through social interactions which enable learners to perform a task independently without help as before. From Vygotsky's perspective, children's growth can be promoted through collaborative activity because children of similar age are probably working within each other's zones of proximal development, modeling more advanced behaviours in the group than they could do as individuals.

The common approaches align with a constructivist perspective include reciprocal teaching, peer collaboration, cognitive apprenticeships, problem-based teaching, etc. (Shunk, 2000) and collaborative learning (Johnson, Johnson & Stanne, 2000).

Economics is a subject involving theories and models which are abstractions and simplification of real-world phenomena. To master the abstract model requires students' higher mental function skills which sometimes mark the differences of students. To enhance students'

mastery of abstract economics concepts, teachers should adopt constructivist instruction whenever appropriate to enable students to explore authentic real-world phenomena and apply abstract economic concepts to analyse them. In addition, to cater for learner diversity, the government promotes the use of groupwork in economics with a belief that students could co-construct knowledge through their interactions with peers. The emphasis of interactions in learning is associated with social constructionism which I will discuss below.

b. Social Constructionism

From my review of the literature relating to groupwork in learning, I found that social constructivism and social constructionism are used interchangeably by many authors. Though these two concepts are subsumed under a generic or undifferentiated “constructivism”, their ontological and epistemological views are different (Young & Collin, 2004). These differences do not affect the analysis of this study and hence will not be discussed here. For clarity’s sake, I use social constructionism as the main theory underpinning the promotion of groupwork to achieve student-centredness (Blatchford et al., 2004; Dawson, 2010; Richardson, 2003) in this dissertation. “Ontologically, social constructionism refers to the way that real phenomena, our perceptions and experiences, are brought into existence and take the particular form that they do because of the language that we share” (Burr, 2015, p.105). The central principle of the social constructionist approach is that people’s perception of the world does not necessarily represent the essence of that world but rather is a product of how the world is interpreted or created through language (Burr, 2017).

To social constructionists, knowledge and reality are not discovered by the mind but created through people’s interaction with the social world (Berger & Luckmann 1991; Schwandt, 2003). The interactions with the social world will affect people in turn resulting in routinisation and habituation. That is, the repeated behaviours will form into a pattern and people can reproduce them easily. The sense of the habituation is integrated as habits over time, creating a general store of knowledge (Andrews, 2012). This general awareness is culturally linked and will influence the interpretation and behaviours of students in a given situation, i.e. groupwork in class in this study.

Social constructionists consider knowledge to be local and ephemeral. It is negotiated between

people in a particular situation and time period. Based on changes in social environments and currently agreed interpersonal limits, what constitutes personhood one day may alter on the other (Raskin, 2002). The very concept of coherent selfhood was often deconstructed by social constructionists (Sampson, 1989) who believe each of us has many, “multiphrenic” selves which are socially created within the limits of culture, context, and language (Gergen, 1991, cited in Raskin, 2002).

Apart from the cultural context, language plays a crucial role in social constructionism. The essence of their interactions defines how individuals communicate about themselves and their environment (Raskin, 2002). Burr (1995) notes that within social constructionism, language is not simply a means of communicating thoughts and feelings, but actually makes thinking possible by constructing knowledge (Cited in Andrews, 2012).

In the light of social constructionism, we can explore if students having different backgrounds such as socio-economic status and culture would have different perceptions and behaviours in groupwork. Also, we can examine the role of language in students’ interaction and how this could affect their construction of knowledge through groupwork.

To sum up, by examining constructivists’ and social constructionists’ views of knowledge acquisition, we can understand how students learn through groupwork and identify elements such as group composition, cultural background, and learning habits that could affect the learning outcomes through groupwork. With this knowledge, I can develop a framework connecting learners’ differences and elements affecting groupwork for my study in Hong Kong economics classes. In addition, the epistemological view of social constructionism persuaded me that qualitative case study was the most appropriate research methodology for this study (to be discussed in Chapter Four).

3.4 Student achievement through groupwork

Though I stated in Chapter One (p.1) that many economics teachers simply arrange groups randomly in an effort to deal with learner diversity instead of using the whole structure of cooperative learning, I find the elements involved in cooperative learning including positive independence, individual accountability, social skills, a specific task, face-to-face interaction

and reflection and review (Johnson, 2006) are also relevant for me to evaluate the effects of groupwork on students' learning. Therefore, in the following part I will explore some underlying elements that make cooperative learning effective in enhancing students' learning as reference.

Having analysed the mechanisms and format of cooperative learning, Slavin (1966) identifies four main theoretical perspectives on why and how this approach promotes students' achievements. These are motivation, social cohesion, and cognitive developmental and cognitive elaboration. Each perspective can be used in a classroom, but none are both essential and sufficient in all situations. These perspectives are outlined below to discuss how cooperative learning is correlated to constructivism and social constructionism. This relationship helps us identify the elements facilitating groupwork in students' learning.

➤ *Motivational perspective*

The reward system of cooperative learning for group goals and individual responsibility creates a situation in which group members can only achieve their own personal goals if the group succeeds. As a result, in order to achieve their personal goals, members of the group must assist or encourage each other to do whatever it takes to make everyone succeed (Slavin, 1996). This reward system fosters positive interdependence between the members of the group (Doolittle, 1997). In addition, individual responsibility promoted in cooperative learning can prevent free-riding, where the majority of the work is done by a few group members, while the others do very little. The reward system and individual responsibility motivate students to work cooperatively.

In cooperative learning, face-to-face interaction is characterised by the fact that students' success is influenced by the assistance, support, encouragement, and recognition by other group members (Johnson & Johnson, 1999). According to the Vygotskian framework, this promotive interaction is considered as enculturation and social mediation. The former means what is learnt, whereas the latter means how it is learnt (i.e., through social interaction learners acquire skills and knowledge). The zone of proximal development serves as a vehicle for enculturation that takes place with the help of social mediation (Doolittle, 1997).

➤ *Social cohesion perspective*

The social cohesion perspective emphasises team building activities which prepare students for engaging in cooperative learning and group self-evaluation during and after group activities. The rationale behind this is that team building activities can develop students' respect for and reliance on each other, with which they are more willing to offer mutual encouragement and assistance in order to succeed (Slavin, 1996). Group self-evaluation aims to clarify and improve the productivity of all members of the group as contributors to its objectives. It is a way to evaluate the processing of a group and to allow group metacognition.

➤ *Cognitive perspectives*

According to Slavin (1996), cognitive perspectives suggest that the mental processing of information rather than motivation is the reason why interactions between students enhance achievement. He distinguished between the cognitive perspectives of developmental and cognitive elaboration

● *Developmental perspective*

The cognitive developmental perspective of cooperative learning is based on the premise that the interaction of students, who have been set appropriate tasks, enhances their understanding of essential concepts. This claim is consistent with Vygotsky's perspective that students' growth can be promoted through collaborative activity because students of a similar age are likely to work within each other's zone of proximal development, modeling more advanced behaviors in the group than they could do as individuals. Jean Piaget (1896-1980) also suggests that peer interaction helps students develop logical mathematical thinking by disbalancing their egocentric concept and providing them with comments on the validity of their logical constructions.

Therefore, task design for groupwork should encourage students to discuss, to argue, to express and to listen to each other's opinions, thus they learn through their interactions.

● *Cognitive elaboration perspective*

According to research in cognitive psychology, the learner must engage in some form of

cognitive restructuring, or elaboration, of the material if it is to be retained and connected to information already in memory. Explaining the materials to others is an effective method of elaboration. Reciprocal teaching, in which teachers and students use discussion frameworks with strategies to motivate students to reflect on and make sense of the materials, is one practical application of the cognitive development potential of cooperative learning, with studies on the impact of reciprocal teaching on student achievement being largely positive (Palincsar, 1998).

Overall, the above-mentioned studies on cooperative learning suggest that the elements, including peer relationships, reward system, and group task and activity design including discussion and reciprocal teaching are essential for groupwork to be effective in student learning. Reviewing them enabled me to focus my research more closely on those groupwork components that appear to have most effect on students' learning.

3.5 Conceptual framework of the study

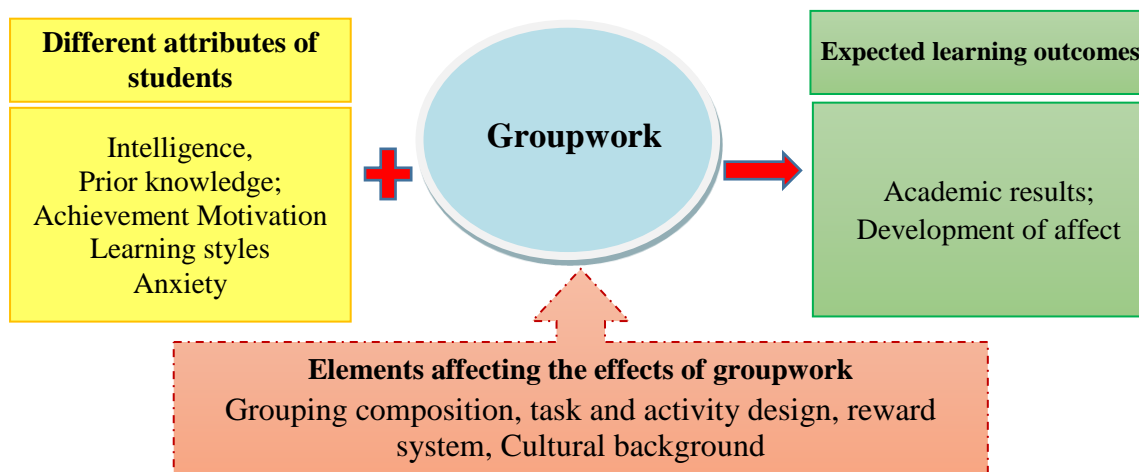
In this section, I propose my conceptual framework for the present study. "A conceptual framework is like a network, or a plane of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. This is not merely a collection of concepts but, rather, a construct in which each concept plays an integral role" (Jabareen, 2009 p.51).

My conceptual framework is developed from the review of the literature and my experience as an economics teacher as well as a curriculum development officer. To me, students' learning in class resembles a planting process in which students are perceived as "seeds", and teachers are the "farmers" who provide "nutrients" such as knowledge and care, and use various methods such as different pedagogical strategies to nurture the "seeds" to grow into mature and healthy plants with attributes stipulated in the government document.

However, in reality, not all students are alike; they possess different characteristics, including intelligence level, achievement motivation, learning styles, etc. Owing to these differences, not all students in the same class can attain the same expected outcomes, and this situation calls for teachers' adoption of various strategies such as grouping arrangement, mastery of learning,

curriculum adaptation, etc., in addressing the differences. Nonetheless, there are some elements that would affect the effects of the strategies and are worth teachers' attention.

Figure 2 Conceptual framework of using groupwork to cater learner diversity



The above conceptual framework is not comprehensive, but it is generated from my reflection of the literature I reviewed and my working experience as a teacher and curriculum development officer. According to Punch (2004), a conceptual framework “is useful to get our prior knowledge and theorising out on the table, and organising that into a conceptual framework ...” (p.54). Also, this framework directs me to develop the research questions in the next chapter as Punch (2004) points out that “development of the research questions and the conceptual framework goes hand in hand.” (p.53)

3.6 Conclusion: Bridging the gap between literature and the current study

The above literature reveals that successful groupwork is based on constructivist and social constructionist philosophies of learning that advocate peer interactions (Fosnot & Perry, 1996, Lou et al., 1996). Furthermore, task and activity design, group composition (Cohen, 1994; Maier & Keenan, 1994), student and teacher training, and student equity (Cohen, 1994) are all essential in making collaborative groupwork effective in enhancing students' learning. Nonetheless, previous studies revealed that students in CHC may perceive groupwork differently and hence perform differently in groupwork. The influence of CHC may affect the outcome of groupwork expected by the teachers to a certain extent.

The official documents indicate that curriculum reform in Hong Kong puts much emphasis on learner-centredness and the issue of learner diversity arising from the socioeconomic changes in Hong Kong in past decades. Against such a background, groupwork is commonly used in catering for learner diversity in economics classes. Notwithstanding its popularity among economics teachers, there is a lack of evidence of their perceptions, rationale and implementation. This study bridges the gap by exploring how economics teachers perceive the need to cater for learner diversity in economics and elements such as group compositions and the influence of CHC that affect the use of collaborative groupwork in handling learner diversity.

Chapter 4

Research Design

4.1 Introduction

The primary purpose of this study was to explore how economics teachers perceive learner diversity, how they organise groupwork in class in response to this diversity as well as the essential elements that affect groupwork in Hong Kong economics classes. This chapter will first present the research questions which guide my investigation, followed by an illustration of the research design, including the philosophical positioning, methodological approach, sample selection and processes of data collection and analysis. The chapter will then conclude with a discussion of the methodological and ethical concerns in the study.

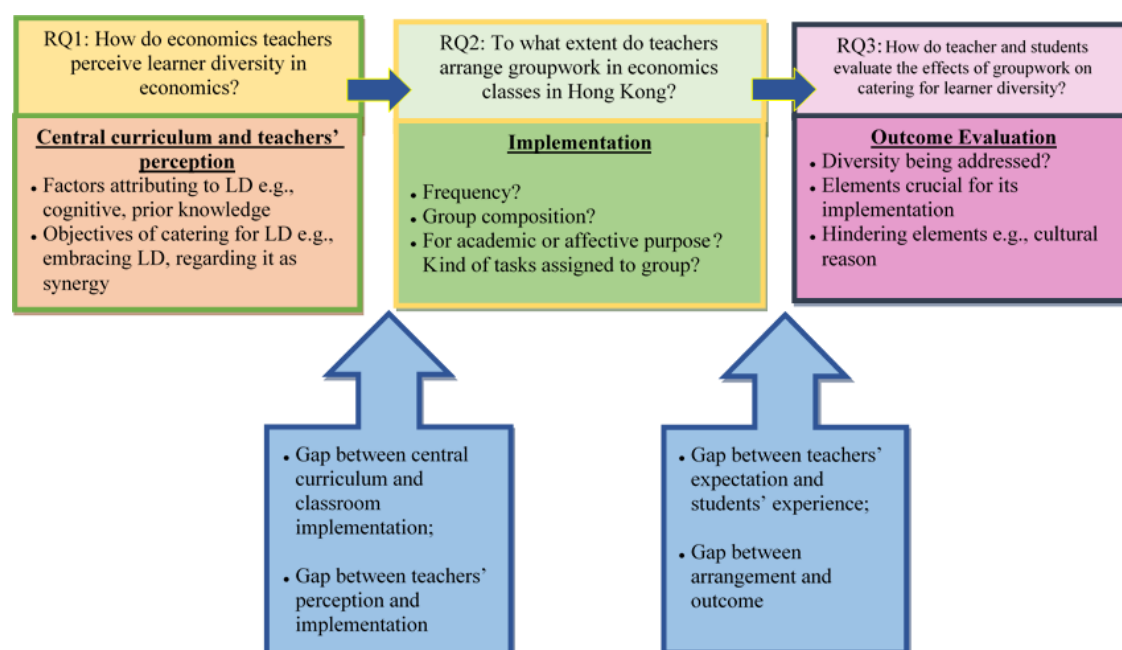
4.2 Research questions

1. How do economics teachers and students perceive learner diversity in economics?
 - (i) What are the common elements attributed to learner diversity in economics classes?
 - (ii) How do the teachers regard the diversity in their classes?
 - (iii) To what extent do teachers strive to manage learner diversity?
2. To what extent do teachers arrange groupwork in Hong Kong economics classes?
 - (i) In what situations would teachers adopt grouping in economics classes?
 - (ii) What are their expectations of students' achievement through working in groups?
 - (iii) What kind of tasks are given to students working in groups? What are the design rationales behind these tasks?
3. How do teachers and students evaluate the effects of groupwork on catering for learner diversity?
 - (i) To what extent do teachers and students think groupwork can help cater for learner diversity?
 - (ii) What elements do teachers consider are essential in achieving their objectives for adopting groupwork?
 - (iii) What are the limitations of using groupwork in handling learner diversity?

From the government documents discussed in Chapter One, we can see that the government

realises the existence of learner diversity in the subject of economics. The previous studies reviewed in Chapter Three identify the common learner differences. In this connection, the first and second research questions above intend to explore the gap between the government's knowledge and authentic situations of learner diversity in Hong Kong secondary economics classes from teachers' perspectives based on their personal experience. In addition, certain studies of effects of groupwork on economics learning discussed in Part 2.3 in Chapter Two reveal that the groupwork is found to be affected by certain elements such as the group composition, task design, and cultural factors. In this regard, the third research question intends to explore the views of teachers and students concerning the crucial elements affecting the outcomes of grouping. The answer to this question also, in turn, helps fill the gap between teachers' implementation and the actual impact of groupwork on students' learning. It can also help evaluate the significance of cultural factors and identify other elements affecting the outcomes of grouping. The research framework of this study is outlined in Figure 3.

Figure 3 Elaboration of the Research Questions



4.3 Philosophical Paradigm

The previous literature discussed in Chapter Two and Chapter Three provide me with insights into various elements that may affect groupwork on students' learning. My understanding is, therefore, that the impacts of groupwork on students' learning are subjective and differ from case to case. This aligns with my ontological view that reality is subjective and differs from person to person (Guba & Lincoln, 1994). People act intentionally and make meanings in and through their activities (Blumer in Cohen, Manion and Morrison, 2007). In terms of epistemology, I believe that the knowledge of the social world is constructed through interactions between different individuals. Hence, it is essential for us to start with an individual's viewpoints, explore the interactions among individuals, and investigate the historical and cultural contexts in which people inhabit in order to understand the phenomenon (Creswell, 2012). To explore the unique situation in Hong Kong, I thought it was necessary for me to have experience in the field in which I could collect information through conducting observations in economics classes to observe the interactions among teachers and students, and students and students. Apart from class observation, I organised interviews with teachers and students to collect their own perspectives about learner diversity and the extent to which groupwork helps in the learning of economics. Therefore, I undertook qualitative research in the form of a case study. Since the purpose of this study was not to explain and generalise the findings, qualitative research was best suited to address the research problems in which the variables are not known and need to be explored (Creswell, 2012).

I am positioning my research within social constructionism, which refers, ontologically, "to the way that real phenomena, our perceptions and experiences, are brought into existence and take the particular form that they do because of the language that we share" (Burr, 2015, p.105). In this study, I presumed learner diversity exists in economics classrooms, and this presumption can be supported by the government documents and teachers' sharing of their experience in my work. What I aimed to explore in my study was not the existence of learner diversity but how teachers perceive the learner differences they face. Epistemologically, I believe teachers' concepts or interpretations of learner differences are constructed by making sense of their experience with students. My belief is consistent with social constructionists' epistemological views that

knowledge is constructed through interactions. Also, I think teachers' knowledge of learner diversity and their responding pedagogical strategies would change over time in the light of the new experience of their interactions with students (Schwandt, 2003).

Moreover, social constructionism views historical and social dimensions concerning shared understandings, practices, and languages as an inevitable role in constructing knowledge about the world (Schwandt, 2003; Burr, 2017). For social constructionists, what is interesting is why certain properties are assumed to be a more important and critical basis for social evaluation (Burr, 2017). In this study, I wanted to examine the students' differences that teachers were most concerned with, in a CHC, and how this concern would lead to deciding on strategies to address learner differences. One of the aims of this study was to investigate teachers' unique perspectives of learner differences and their responses in instructional design according to their own teaching experience in Hong Kong economics classes; therefore, positioning it within social constructionism is appropriate.

Apart from teachers' perspectives on learner diversity, I explored the impacts of CHC on students' responses to groupwork. Social constructionists view knowledge and truth as created, not discovered by the mind (Schwandt, 2003). They consider that knowledge is local and short-lived. It is negotiated between people within a particular situation and time frame (Raskin, 2002). Since teachers and students play different roles in the class, in this connection, I assume students' perception of learner diversity and their views of groupwork would be different from those of teachers to a certain extent. In addition, social constructionists believe that people have multiple, "multiphrenic" selves, which are socially constituted within cultural, contextual and linguistic boundaries (Gergen, 1991, cited in Raskin, 2002). When working in groups, students' selves are expected to change to a "knowledge constructor" through exchanging views and ideas in their own languages to co-construct knowledge, for example, a solution to an economic problem or perspectives of different stakeholders toward an economic policy. In order to achieve this learning outcome, students in the group should ask questions, and give responses. When working in groups, they may sometimes face disagreement or conflicts with others. How students respond in such situations could be influenced by the cultural elements discussed in Chapter Two. How students construct their knowledge through

groupwork may differ and be constituted by their cultural background. Given that students in Hong Kong are mainly from CHC, and Mainland students might even have a stronger CHC background, I, therefore, chose to conduct research in three economics classes with students of diverse cultural backgrounds.

Methodologically, social constructionists prefer qualitative research approaches for they are the suitable ways of collecting linguistic and textual data. Also, they can help contextualise the experiences of the participants (Burr, 2017). In light of this, to understand the phenomenon of learner diversity in Hong Kong economics class, I determined that the most effective way to conduct the research was to interact or communicate with the stakeholders involved in the economics classes, that is, the teachers and students, using interviews and class observations (Baxter, 2008). Throughout the various stages of the research, I used reflexivity, which refers to the researcher's awareness and consciousness that he or she is a part of the social world and thus has a role in the research as a participant in the knowledge construction process (Palaganas et al. 2017; Patnaik, 2013). It is an introspective process in which the researcher becomes aware of, and more "transparent" about, their subjective influence on the research process (Darawsheh, 2014). Being reflexive I reflected on my prior knowledge, experiences, beliefs and interest in learner diversity and groupwork as a researcher and a government officer, in order to co-construct knowledge in those areas with the participants, and the lessons I observed throughout this study (Haifa, 2010). I reflected on how my methodological approach and prior understandings of the topic transformed and shaped the new understanding I discovered in the study, as well as how my ontological positioning of social constructionism regarded this new understanding as 'new knowledge' (Symon and Cassell, 2012). Overall, my goal in being reflexive is to give richer meaning to the phenomena under investigation and to clarify the lenses through which I arrive at my interpretations of the data (Patnaik, 2013).

4.4 Methodology and Research Methods

4.4.1 Case Study

Case study is one of the methodological approaches of qualitative research that promotes exploration of an event using a variety of data sources within its context. This ensures that the event is not explored through a single lens, but rather a number of lenses

that make it possible to reveal and understand the different dimensions of the event (Baxter and Jack, 2008). This study not only explored through the lens of teachers concerning their decisions of why and how they arrange groupwork but also examined the perspective of students based on their experiences of grouping practices in economics classes in a more in-depth manner.

- *Case study designs*

According to Yin (2014), case studies can be broadly divided into a single-case study (single case) and multiple-case studies (multiple-case). A single-case study is to be adopted according to five rationales. The first rationale is when the case represents the crucial case in evaluating a well-formulated hypothesis with a specified set of propositions and conditions under which the propositions are seen to be correct. The second rationale is when the case represents an exceptional case of a particular case that any single case is worth recording and analysing. The third rationale, on the other hand, is for the representative or typical case of which the purpose is to capture the conditions of an everyday situation. The fourth rationale is about the revelatory case in which a phenomenon that is originally inaccessible to social science enquiry can now be observed and examined by researchers. The fifth rationale is for the longitudinal case, which includes an analysis of the same particular case at two or more points in time to show how such conditions evolve over time, with the desired time intervals likely to represent the expected stages in which the changes should occur.

However, when considering my research questions, the multiple-case design is deemed appropriate. The evidence from multiple cases is often considered to be more prevalent, and the overall study is therefore regarded as being more rigorous (Herriott & Firestone, 1983, cited in Yin, 2014). However, the resources and time required for conducting multiple case studies are more extensive. In view of the constraint of my time and resources, therefore, I confined my study to three cases i.e., three economics classes.

4.4.2 Sample selection

The purpose of this qualitative research was to conduct an in-depth analysis of the research problem. I employed purposeful sampling to select individual economics teachers with sufficient knowledge and experience in catering for learner diversity

(Patton 1990, cited in Creswell, 2014). In addition, to enrich the coverage of the findings, maximal variation sampling was employed whereby teachers teaching students with different backgrounds were selected.

As explained in Chapter One, it is considered that the three-banding system of secondary schools in the Hong Kong education system creates different scenarios concerning learner diversity encountered by teachers. Under this system, band-one schools admit the top 33 percentile of the students in Hong Kong; band-two schools admit the next 33 percentile while the remaining students with the lower academic performance would be allocated to band-three schools. Apart from students' academic performance, their socio-economic background, learning ability, and school cultures are varied in different bandings of school. In consideration of this situation, I selected an economics teacher from a school of each banding with the view to demonstrating an in-depth analysis of the learner difference and effects of collaborative grouping in different banding of schools (Due to the COVID-19 epidemic, the teacher teaching in a band-three school rejected my invitation. I therefore invited another teacher i.e. Teacher B from a band-two school. According to her, the differences in ability between students in her school is comparable to students in a band-three school).

The backgrounds of the teachers and their respective schools are listed below:

	Teacher A	Teacher B	Teacher C
Sex	M	F	M
Current Position in School	Economics Panel-head	Economics Panel-head	Economics Panel-head
Academic Qualifications	Master's Degree & Post-graduate Diploma in Education	Post-graduate Diploma in Education	Master's Degree & Post-graduate Diploma in Education
Current school	School A	School B	School C
Banding of school	1	2	2
Student gender	Boys	Co-ed	Co-ed

Table 1 Backgrounds of the participant teachers

The three teachers invited were known to me through my work for the government. I understood, therefore, the background of their students and found them to be suitable for my study. Before the interview, I sent an invitation email to the teachers (Appendix 6) to gain their consent to participate in the study. In the email, I stated clearly the objectives and process of the interview and how the data would be used. Upon their

consent, I sent a letter to their school principal to obtain approval for me to interview the teachers, observe the class and conduct a focus-group interview with the students (Appendix 7).

4.4.3 Data Collection Method

To answer the research questions, I employed three methods of collecting qualitative data, interviews, focus groups and class observation. Using these methods enabled me, to some extent, to triangulate the data collected (Wellington, 2015).

a. Interviews with teachers

“Qualitative interviews are special kinds of conversations or speech events that are used by researchers to explore informants’ experiences and interpretations” (Mishler, 1986; Spradlye, 1979 in Hatch, 2002). Interviews can reveal the meaning structures that the interviewees use to organise their experiences and make sense of their worlds (Hatch, 2002). They provide essential sources of case study information (Yin, 2009). Well-informed interviewees may offer useful insights into events or affairs. The interviewees can provide shortcuts to their past experience in certain circumstances to help the researcher to find other important sources of evidence (Yin, 2009). According to Yin (2009), case study interviews require researchers to work simultaneously on two levels i.e., to fulfill the needs of the line of enquiry and to ask “friendly” and “non-threatening” questions in the open-ended interview at the same time.

There are three types of interviews that researchers can conduct. The first type of interview is more structured, similar to a standardised survey, and can be planned as part of an embedded case study to include quantitative data as part of the case study evidence (Yin, 2009). The second type is an in-depth interview. It usually takes a longer period of time instead of just one sitting to conduct an in-depth interview. During the interview, the researcher can ask main interviewees about the facts of a matter and their views about incidents. Sometimes, the researcher can ask the interviewee to suggest his or her own observations into certain events. Given the insights collected the researcher can develop further enquiry. The researcher can also invite the interviewee to suggest other important persons for another interview and other sources of evidence. It is noteworthy for the researcher that the more reliance on an interviewee, the more the

role of the interviewee may be considered as an “informant” rather than a respondent. The third type of interview for a case study is a focused interview, in which a participant is interviewed for a short period of time. In such situations, the interviews can still be open-ended and administered in a conversational manner. The researcher is presumably to be following a certain set of questions generated from the case study protocol. The main purpose of conducting focused interviews is to verify certain facts that the researcher has already identified, rather than to explore other broader and more open-ended topics (Yin, 2009). One type of focus interview is a focused group interview in which the role of the researcher is more like that of a facilitator or moderator than that of an interviewer. During the process, the researcher will be facilitating, moderating, monitoring and recording group interaction. One of the benefits of focus group interviews is that they make clear use of group interactions which can provide information and insights that would be difficult to obtain without such interactions (Morgan, 1988 cited in Punch 2005). Focus group interview is appropriate for research that seeks to examine those aspects of people’s behaviors as a well-facilitated group interaction allows people to express their views, thoughts, motives and reasons. Organising focus group interviews is relatively inexpensive, data-rich, stimulating and elaborative but it can be difficult to gather sufficient people together at the same time. However, issues with group culture and dynamics, as well as maintaining the balance of group interactions, may arise (Punch, 2005). All things considered, the role of the researcher as a facilitator is essential in providing each interviewee with a fair opportunity to express their views.

Since I aimed to collect information on how teachers plan their groupwork and comment on whether it can help cater for learner diversity, as well as how students perceive the effects of groupwork in helping their learning, I considered it suitable to conduct individual interviews with the teachers and focus group interviews with students.

Before the interview, the teachers invited were fully informed of the objectives and process of the interview and how the data would be used. I conducted semi-structured interviews in which I incorporated theoretically-driven questions based on constructivism and social constructionism and some opened-ended exploratory probes.

The theoretical questions were based on the social constructionist's views of grouping, while the open-ended questions created space for teachers to narrate their experiences. I developed my interview questions with reference to the study of Kutnick et al. (2006) to examine teachers' considerations, practices, and experiences in relation to employing groupwork in addressing the issue of learner differences (Appendix 8). I have paid due attention to the connection between the focus of the questions and the research questions (Galletta & Cross, 2013).

Before conducting interviews with the participant teachers, I carried out a pilot interview with a secondary school economics teacher in April 2020 to check the clarity of the interview questions. At the beginning of the interview, I asked the questions according to the pre-set sequence. The teacher followed my questions well and elaborated thoroughly her observations concerning learner diversity in her classes. For the question on types of learner diversity she found in her class, the teacher mainly focused on the difference in students' academic results, and therefore I needed to ask her to further think of other aspects that she could observe. In terms of the sequence of the questions, I found that it would be smoother to ask about the methods the teacher adopts to handle the diversity before asking whether she organises grouping to address learner differences. This is because she has adopted various means to address the issue. In the light of the teacher's responses, I reordered the questions in the research interviews. The data collected in the pilot were excluded from the data analysis.

Due to the COVID-19 pandemic, secondary schools in Hong Kong suspended face-to-face teaching for several months. I, therefore, invited the teachers to participate in online interviews. Two teachers agreed because they found it more flexible for them, and they were familiar with this type of interview. One teacher met me online in his home and the other participated in the interview in his own office. The remaining teacher refused as she was not familiar with Skype, and hence a face-to-face interview was conducted in the guest room of her school. All the interviews were conducted in Cantonese, the mother tongue of the teachers, with the view to encourage them to express their views freely. Each of the interviews was carried out for 35-40 minutes.

b. Focus group interviews with students

After collecting the data from teachers and class observation, I planned to conduct

students' focus groups to explore how they perceive the differences in their classmates and their perception of the effects of groupwork on learning and catering for learner differences. This information would be used to enrich the data collected from the teachers' interviews and class observations. Litosseliti (2003) explained that the focus group interview is suitable for a study which aims to explore complex emotions, or to encourage detailed accounts (Litosseliti, 2003). By conducting a focus group interview, I hoped to gain a deeper understanding of students' perspectives on learning differences and their opinions on how grouping affects their learning. During the interview, students were asked about their views of the grouping arrangement based on their own experience and learning outcome. I also wanted to gain more information from the interactions of the students during the focus group interview. That means that I planned to encourage the students to talk to one another in the form of asking questions, sharing their own stories and commenting on each other's perspective, instead of asking each student to answer a question in turn. Students' interactions in the focus group can reveal some facets of understanding that may remain untapped by other data collection methods. Most importantly, by tapping into students' interpersonal communication, I hoped to obtain some (sub) cultural values or group norms, which are part of my focus of this study.

Nonetheless, there are some limitations of focus group interviews; for example, the researcher or moderator has less control over the data when participants can interact and communicate with each other than in a one-to-one interview. Also, the data collected can be very complex (Kitzinger, 1995), and it may be sometimes difficult for the researcher to clearly identify the message of each participant when they are sharing views in a specific context, within a specific culture. Moreover, compared to a one-to-one interview, it is challenging to organise a focus group interview because it may not be easy to get a representative sample (Gibbs, 1997). To address this limitation, I needed to select individuals who were believed to be good informants, be available, and agree to be interviewed (Hatch, 2002). For convenience sake, I planned to ask for four to five volunteers from each class. If there were no volunteers, I planned to ask students who demonstrated very high and low involvement in the groupwork based on my class observation.

Despite the possible limitations, when considering the aim of my study, I believed that the use of a focus group to be useful for me to explore the students' perceptions based on their experiences and examine not only what they think but how and why they think that way given a specific cultural context (Kitzinger, 1995).

Due to school closure because of COVID-19, I could not follow my plan described above. Because of the teaching schedule of the teachers, I had to conduct student focus groups online before lesson observations. Instead of selecting students myself, I asked the teachers to invite students with diverse backgrounds such as their academic results, elective subjects taken to participate in the focus groups. During the focus group interview, I was the moderator asking students questions and facilitating their interactions in response to the themes set for the interview. The focus group was conducted in Cantonese, the mother tongue of most students for about 35-40 minutes. Regarding the contents of the questions, Krueger (2014) states more "think back" (p.65) questions should be asked to help the participants to reflect on their experience and take people back to an experience. In this connection, the focus groups were semi-structured with a series of open-ended questions with the view to exploring their views about the grouping arrangement deeper (Appendix 9).

Though the teachers' and students' interviews were conducted in Cantonese, and my research is reported in English, I was aware of the complexities of conceptual equivalence which may be a concern arising from the translation and I strive to highlight this if and when it occurs. I developed a protocol including standard questions, and reporting of essential data such as interviewees' background information to organise the interview data (Creswell & Plano Clark, 2011). I recorded all the interviews in order to allow me to engage completely with the participants without being distracted by taking notes and to enable me to review and analyse the interview data afterwards (Oppenheim, 1992).

Comments on interviewing and conducting focus groups online

When compared to face-to-face data collection through interviews and focus groups, the online mode may have some limitations in collecting data concerning messages delivered from participants' body language since the webcam shows only the head and

shoulders of the participants, limiting the potential for a full capture of nonverbal communication (Greenbaum, 2002; Seitz, 2016). This limitation was exacerbated when some student participants in the focus groups in my study failed to turn on their webcam due to poor internet connection or some personal reasons. Their not doing so prevented me from seeing their facial expressions and other gestures that may have provided some information about how they felt about the questions, such as whether they were nervous or relaxed during the interviews; how they responded to the questions; and whether they needed to think hard in order to answer (Tuttas, 2015). All these non-verbal inputs from the participants are essential for me to facilitate the group during the processes of data collection and analysis (Greenbaum, 2002). In addition to non-verbal communication, the online environment limits group dynamics, which is considered to be one of the advantages of holding focus groups (Greenbaum, 2002). This problem becomes obvious when some of the participants do not turn on their webcam as the interactions between them are weakened. Apart from the interactions among the participants, the power relation between the interviewer and participants is also affected by a virtual interface. For instance, when there is a period of silence or a pause, it is hard for the interviewer to use an enquiring glance or verbal prompt to encourage the participants to share their views or expand their opinions (O' Connor & Madge, 2003). According to social constructionism, knowledge is created and co-constructed through interactions between people using language, including verbal and body language. The essence of their interactions determines how people communicate about themselves and their surroundings (Raskin, 2002). If the online discussion environment does not encourage interactions, it will affect participants' willingness to express their opinions and reduce the amount of data collected (Greenbaum, 2002; O' Connor & Madge, 2003). I encountered such problems while gathering data for this study using focus groups.

Despite the limitations listed above, collecting data online is convenient when face-to-face interviews are prohibited (Connor & Madge, 2003; Tuttas, 2015) due to pandemics (Jones & Abdelfattah 2020). Furthermore, interviewees may feel more relaxed when they can choose to participate in interviews in an environment where they feel more at ease (Lo Iacono, Symonds, & Brown, 2016). They may be more willing to express themselves freely as a result, especially when some people experience anxiety or stress when confronted with the interviewers face to face (Seitz, 2016). Because social

constructionists believe that each of us has many selves that are socially created within the limits of culture, context and language (Gergen, 1991, cited in Raskin, 2002), the interactions between interviewers and interviewees may be better in a more relaxed environment. Interviewees especially those who are more introvert incline to reveal their other “self” or “real me” in a more relaxing setting, and some information may be gathered in this situation that would not be possible if the interview was conducted face to face (Orchard and Fullwood, 2010). This was my experience of the teachers who were being interviewed online.

c. Lesson observation

To collect qualitative data of how teachers practise grouping arrangements in addressing learner diversity in economics classes and how students perform in groups, I conducted a non-participant observation in one economics class in each of the participating schools. A non-participant observer is an observer who visits the site and records notes without taking part in the activities of the participants (Creswell, 2014). Through lesson observation, I could collect data such as teachers’ and students’ expressions conveyed by the language used and gestures, their interactions and tasks assigned for the groups, which are not easily obtained through interviews with the teachers and students. In addition, during the class observation, I planned to make a record of what I observed in the setting, for example, the impressions, reactions, reflections of the teachers and students as well as tentative interpretations in field notes (Hatch, 2002) written on the spot. The first part of the record would focus on the contextualised features of the setting in order to provide a solid sense of the contextual situation of the participants, and develop an understanding of the contexts. All this information was expected to help me frame the approach to what to look for and where I could obtain more data. To guide myself to the importance of the early observation, I prepared the field notes with a list of questions (Appendix 10) around the research question before class observation.

In spite of the anticipation and preparation, my data collection was further affected by the COVID-19 pandemic. During the pandemic, face-to face lessons were suspended and schools could only offer online lessons to students. Because of this situation, without further postponing my study, I conducted the lesson observation online. Due to

the time clash, I could only participate in one online lesson in real time and had to observe the other two online lessons in recordings provided by the teachers. During the lesson observations, I made notes with reference to the field notes (Appendix 10) I prepared as far as I could notice in the online environment. As soon as I observed the lesson, I converted the raw field notes into research protocols, which were, expanded accounts of what was observed in that particular lesson. With the protocol, I filled in the details that I did not have time to record during the lesson particularly the lesson observed in real time. Unlikely in a real time lesson, I could play back to the scenes that I would like to explore more in a recorded lesson.

4.4.5 Organising and Analysing Data

I conducted data analysis early in the stage of data collection. During the observation, I needed to make decisions about where to be, what to attend to, what to record, and so on. In interviews, I made decisions about what to enquire, what to follow up on, and what to investigate into. These kinds of decisions involve an informal kind of data analysis and helped shape my study based on analytic judgments about what data were desirable (Hatch, 2002). Through the initial analysis of the teachers' interviews, I shaped the direction of further data collection based on what I found and not found. This analysis informed me of the need to change my focus on subsequent observations and interviews. For example, I paid more attention to the difference between boys' and girls' perception of and performance in groupwork as one teacher reflected in the interview that boys tend to be less willing to join groupwork.

To facilitate the process of data analysis, I organised the data into computer files. This stage was very critical as a large amount of information, including the field notes taken in class observation and the audio recordings of the interviews, were gathered. The sizable amount of data, the transcribing, and organising of information was categorised by school and divided into types of data collected from interviews, class observations, and documents. I then transcribed all the interviews and observation notes into text data to facilitate the data analysis. The recorded script of the interviews was also translated into English to facilitate review by my supervisor (Bauer & Gaskell, 2000).

To conduct an in-depth analysis, I referred to the stages suggested by Wellington, 2015: (1) Immersion; (2) Reflecting; (3) Taking apart/analysing data; (4)

Recombining/Synthesising. First of all, I read the transcripts of the interviews and observation field-notes to gain a general impression of the data. At the same time, I took notes and made annotations on the texts and made reflective notes when ideas emerged (An example is shown in Appendix 11a). After that, I carried out an in-depth analysing process during which text data were taken apart into a manageable chunk, and the useful chunks were filtered out for further categorising or coding into recurring themes. The further process of analysing the text was the coding process in order to make sense of the text data. In this process, I divided the text into segments and assigned codes for each segment; the codes were then checked for duplication and redundancy before they collapsed into broad themes (Creswell, 2014). I used the descriptive coding of the characteristics of the interviewees, the topic coding of the subjects discussed, and the analytical coding of key themes (Punch, 2009; Creswell, 2014) when writing the analysis and discussion. The contents of the interview transcripts and observation field-notes were categorised in terms of the research questions (See Appendix 11b). I tried to subsume the new units of data under the provisional categories or new categories developed. After that, I integrated the data so that they could be grouped. Finally, as put forwarded by Yin (2014) on the principles for high-quality of analysis in case-study research, “the analysis must address the ‘most significant aspect’ of the case study, e.g., focusing on the key issues” (Wellington, 2015, p.173), I related the most significant data to the research questions in this stage.

4.5 Methodological and Ethical Issues

4.5.1. Methodological concerns

Though this case-study intended to give illumination and insights into the effects of collaborative grouping in catering for learner diversity in Hong Kong economics classes, some concerns need to be addressed.

Initially, some critics may be concerned about the construct validity of the case studies because they consider that researchers may not be able to establish a sufficiently operational set of measures and that the data is collected using “subjective” judgments (Yin, 2009). In this connection, I collected data from multiple sources, including interviews from teachers and students, and class observation to enrich the data collected and to establish a chain of evidence for my findings. Moreover, I invited the teacher

participants to review the draft report with the aim of developing a richer and more credible report (Rowley, 2002).

Another concern of the case study is its generalisability, which is related to the external validity of the study. Critics always state that a typical case offers a weak basis for generalisation. This point is well-noted, and, as I have clearly stated previously, the purpose of this case study is not to generalise the results but rather provide insights in relation to the topic. Such rich insights may, of course, be transferable to other, similar schools in Hong Kong and, indeed, more widely.

The representativeness of this study caused by the selection of cases is also a concern. The schools selected in this study might only demonstrate a behaviour of the teachers or students that they used only once. I am aware of this concern but what drove my selection of cases is their relevance for the phenomena under study rather than their representativeness (Gobo, 2004). I selected the cases which cover three bandings of schools in Hong Kong, and according to my understanding from government documents and contacts with teachers, learner diversity exists in all bandings of schools, but the differences may be represented in different forms. Moreover, it is essential not to rule out anything simply because it happened once; often, a single incident may shed rich insight into a person or situation. In spite of their limited representativeness, case studies do not look for frequencies of occurrences but rather the significance of the behaviour, which is a hallmark, offering the researcher an insight into the real dynamics of situations and people (Cohen et al, 2017).

4.5.2 Ethical considerations

Ethical practices are crucial in social science research. Therefore, researchers must consider ethical judgments on what is “right” and the value of preventing any potential harm to participants by the study when making decisions about research questions, participants, methods and analyses (Clough and Nutbrown, 2012). Because this study is part of the doctoral programme at the University of Bristol, I observed the ethics procedures stipulated by the university and complied with the Unsolicited Electronic Messages Ordinance (Cap.593) (Communications Authority Ordinance) and Personal Data (Privacy) Ordinance for (Cap. 486) (The Hong Kong Personal Data Privacy

Ordinance) throughout the course of data collection, data storage, data analysis and reporting to ensure the confidentiality of all participants and a high ethical standard.

Before collecting the data, I sent an email to the invited teachers to explain the aims and operational procedure of the study, the management of the data and publication of the dissertation, and their responsibilities in the research process in order to obtain their consent. I informed the teachers that their participation was totally voluntary and they had the right to withdraw at any time for any reason. I asked them to send me a completed informed consent form on acceptance of my invitation. I asked the teachers to tell the invited students as the participants are secondary school teachers and students, I sent an invitation letter to their school heads and obtained the approval from them prior to the start of the data collection process. For student participants, I told them the aims of the study and how I would organise their information and the data collected from the focus groups. Also, I informed them that they could withdraw the discussion any time for whatever reason.

When writing my dissertation, in order to keep the confidentiality of the participants, I replaced their names with a pseudo-ID, e.g., ‘Teacher A’ for teacher participants and “Student A_School A’ for student participants. No participants are identified anywhere. In addition, I kept all the collected data including teachers’ and school heads’ consent forms, video and audio records, and transcripts, securely. I assured them that there will be no derivative publication directly or indirectly that would lead to a breach of agreed anonymity. I also complied with the legal requirements in relation to the storage and use of personal data as defined in the Personal Data Privacy Ordinance. To ensure that my analysis could accurately reflect teachers’ sharing, I invited them to review the draft report of the findings. Upon completion of the study, I saved all collected data from interviews and class observation in a password-protected folder, in a password-protected computer, and I will dispose all the data three months after successful completion of the examination process.

4.6 Summary

In this chapter, I have first described the research questions developed for guiding my investigation into the themes presented in my conceptual framework shown in Chapter Three. I have discussed my decision to use the qualitative methodological approach of

case study based on my philosophical framework of social constructionism. The rationale and limitations of my research design were discussed and the procedures of my study, starting from data collection to data analysis explained. Finally, I have deliberated on the methodological concerns of carrying out a qualitative case study and the ethical considerations involving data collection, data analysis, and retention.

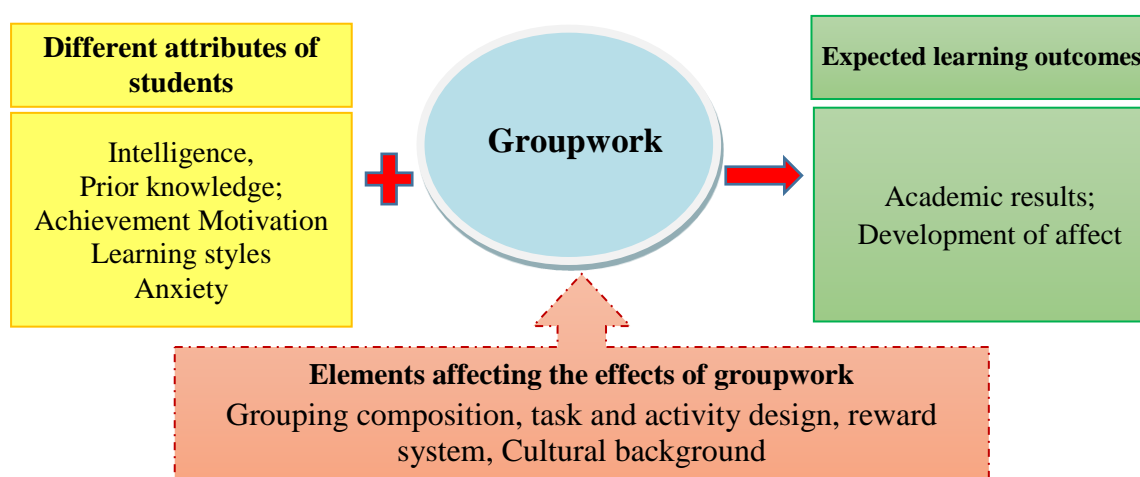
Chapter 5

Findings and analysis of teachers' interviews

5.1 Introduction

As stated in Chapter One, this study explores how economics teachers perceive learner diversity, how they organise collaborative groups working in class in response to this diversity, and the essential elements affecting such arrangements in Hong Kong economics classes. The purpose of this chapter is to present and analyse the data collected from the teachers' interviews. I will first briefly describe the background of the participant teachers and their school's placement system. Then I will discuss the main learner differences such as students' ability, motivation, prior knowledge and learning styles identified by the teachers. Finally, the elements affecting groupwork considered by the teachers will be analysed.

In the data analysis process, the conceptual framework (Figure 2) developed from the literature review in Chapter Three has been used as the thematic analysis framework. The students' different attributes, teachers' arrangement of groups, and the elements affecting groupwork guide the analysis.



(Reproduce Figure 2, the conceptual framework of this study)

5.2 Descriptions of the participant teachers and placement system of the schools

I employed a purposive sampling method in selecting the participant teachers, as I described in Chapter Four. To provide a more concrete context for understanding and

to analyse the participants' responses, the backgrounds of the teachers and schools' systems are described briefly below.

To protect participants' confidentiality, I assigned all of the participants a pre-defined code in the presentation of data as described in Chapter Four, the teacher from school A is referred to Teacher A and so on.

a. Participant teachers

Teacher A has 16 years of teaching experience and has served in two schools after obtaining the Post Graduate Diploma in Education. The first school he taught in was a band-two co-educational school in the New Territories. The current school he is now serving is a band one boys' school in the city area, and English is the medium of instruction. Economics is the most popular subject amongst humanities subjects in his school, and there are three classes of students taking economics in senior secondary. He is now the panel-head of the Economics Department.

Teacher B is an experienced Economics teacher who is now the panel-head of the Economics Department. Her school is a band-two co-educational school in the New Territories, and Chinese is the medium of instruction in teaching economics in the senior secondary forms. The students in her economics class are generally obedient and willing to learn. The academic results of one-third of them are above average and they can usually grasp the teachers' teaching without further help; while the rest of her students need her intensive guidance and support in mastering the economics concepts.

Teacher C has been teaching economics for more than 20 years. He is the panel-head of the Economics Department. His school is a band-two co-educational school where both English and Chinese are used in the economics classes. A number of his students came from the Mainland when they were in junior secondary, and their Cantonese is not fluent.

b. Placement system in the three schools

The placement system refers to the method that the schools use to allocate students to different elective subjects in senior secondary i.e. Secondary 4 to 6. According to the

teachers' interviews, I found the placement system is similar in the three schools, that is, the places for different elective subjects are allocated based on students' preference and academic results. According to the teachers, students with better academic results are most likely to select science subjects, and most of the time, they will be allocated to their preferred subjects. Under such an arrangement, students with poor results would be allocated to subjects that are left with more places, and these are usually subjects in arts and humanities streams.

5.3 Data collection

As reported in Part 4.4.3 in Chapter Four, before conducting interviews with the participant teachers, I carried out a pilot interview with a secondary school economics teacher to check the clarity of the interview questions. As explained in Chapter Four, under Covid-19 pandemics, I conducted online interviews with Teacher A and Teacher C and a face-to-face interview with Teacher B. All the interviews ran smoothly, and I found the teachers tended to be more relaxed through their posture and expression than the teacher with whom I conducted a face-to-face interview.

I present the findings from the teachers' interviews and their analysis in this chapter. The findings will be presented according to the themes shown in my conceptual framework Figure 2 reproduced above. The findings and analysis for the class observations and students' focus-group interviews will be presented in the next Chapter.

5.4 Findings

5.4.1 Types of learner diversity

It is important to identify the types of learner differences the economics teachers observe before exploring the impact of groupwork on students' learning. According to the interviewees, the students differ in terms of their ability, achievement motivation, prior knowledge, learning styles, and level of anxiety, all of which were discussed in the literature reviewed in Chapter Three, including those that are specific to the Hong Kong context.

(i) Ability

One interesting finding from the interviews is that when the teachers were asked to think about the main differences that they could identify from their students, they all responded quickly that their students are different in the level of ability. Moreover, all of them supported their view by quoting students' academic results in Secondary Three (S.3).

Teacher A mentioned that learners' different abilities are observed in daily lessons.

"I teach three economics classes with the same materials, but the pace of teaching the weaker class is slow. The pace of teaching the stronger class could be three times faster than that for the weaker class." (Teacher A)

Teacher B and Teacher C found a great difference in academic results among the same class of students.

"There is a great difference. I take their ranking in S.3 as an example. A student ranked 10th, and some students ranked over 100th (assuming there were 120 students in S.3) in my economics class. It means that my economics class consists of students who ranked the first 10th and over 100th. So the difference is great." (Teacher B)

"For example, students who were placed the first 10th in the form, and students who were placed 100th in the form are studying in the same group. So there is a great difference in the same group of students." (Teacher C)

From their responses, I can see that these teachers focus on students' academic results, and hence they regard them as a measurement of a student's ability. This is understandable as academic results are the most easily observable indicator before the teachers get to know more about the students. Also, academic results are highly valued in Hong Kong's education system which is influenced by CHC (Mak, 2008). According to the teachers, the great difference in academic results in one class of students is mainly due to the placement system of their schools. These three schools adopt a similar placement system of allocating students to different elective subjects in senior forms

based on the academic results in S.3. In Hong Kong, students with good academic results incline to choose science subjects as their elective subjects in senior forms in order to pave the path of future studies in tertiary education. Economics belongs to the humanities stream, and only a proportion of able students would choose this subject for interest together with other science subjects. In other words, an economics class may compose students who are able and interested in economics and students who are less able but interested in the subject and some who are less able but “placed” in the class due to their lack of selection power as a result of their poor academic performance in S.3. Against such backgrounds, the academic result would become the most noticeable difference among students identified by the teachers even before they teach them. Nevertheless, academic result is only one of the learning outcomes of the students, and its difference among students can be caused by many reasons, for example, academic ability and achievement motivations, and other different attributes of students such as prior knowledge related to economics or language ability that I am exploring in this research.

(ii) Achievement motivation

Apart from ability, all the teachers further commented that students’ different degree of achievement motivation is another main influence on the difference in academic results. All of the teachers opined that students with a lower level of achievement motivation would have poor academic results.

“It may be due to the situation that students in weaker classes do not have a sense of achievement, and then they perform gradually poorly. I think it is a common phenomenon in other schools as well.” (Teacher A)

Motivation, in a broad sense, means what energises us to take action and includes needs, beliefs, attitudes, interests, aspirations, and incentives (Gage & Berliner, 1984, cited in Jonassen & Grabowski, 1993). Students’ achievement motivation affects how they perceive learning and, in turn, their learning attitude. Teacher B opined that students with poor academic performance usually have poor learning attitudes in the sense that they do not have the incentive and discipline to study independently.

“I think the main difference is their learning attitude. Furthermore, some are different in their ability.” “It is very easy to observe that students whose academic results were not good in S.3; their learning attitude is always very poor in S.4.” “First of all, students with poor learning attitudes do not take the initiative to read books and prepare for the lessons. After class, they do not read books and just pick the relevant parts in the textbook when doing homework. These students are very undisciplined.” (Teacher B)

Teacher C pointed out that students’ interest in the subject and their own problem may also affect their motivation to learn.

“To me, there are two aspects of learner diversity. First, it is due to their different ability. Second, the difference is due to their intrinsic motivation, which may be affected by their interest in the subject, their own problem, and attitude toward learning.”
(Teacher C)

Students’ motivation does not only affect their learning attitude but impacts on their classmates. Teacher A reflected that students’ low motivation would affect the learning atmosphere of the whole class, which would turn into a vicious cycle.

“Students in weaker classes are stereotyped that they should behave in this way, so they do not pursue better results. They do not aim to be higher in that class, and teachers of other subjects also do not demand much from them. So, when times go by, they become even weaker.” (Teacher A)

Based on Teacher A’s observation, I mused on whether such a stereotype would lead to apathy in the students who begin to do poorly in school and so begin to devalue school learning to protect their self-esteem. ‘Apathy’ was not an issue that I had considered when I conducted my literature review and so it was important for me to locate research that focused on it. Wigfield et al. (2007) point out that, when students are apathetic about studying or engaging in other activities, they may have felt that they are unable to perform the task and do not see anything worth doing at school, and may

even be so excluded from these activities that they are actively resisting efforts to get them involved. It seems that this is what the participant teachers also believed. Hong Kong's education system is always blamed for being so examination-oriented that it causes many students to fail during their schooling. In most cases, the failing students are those who continuously perform poorly in examinations. The repeated failure results in their low self-esteem and motivation in learning. According to my teaching experience, students who are apathetic about learning due to continuous examination failure do not pay attention in class and participate in any class activities. They are physically present, but their "soul" is withdrawn from the school. Worst of all, some students hide themselves at home and do not go to school for an extended period of time. Students' truancy is not uncommon in Hong Kong's secondary schools.

(iii) Ability and Prior knowledge

The other noticeable difference the teachers found in their students are ability and prior knowledge, especially in logico-mathematical and linguistic aspects. Teachers' emphasis on students' mathematical and logical thinking skills is understandable as economics is a subject that requires analytical skills following stringent rules of logic that students need time and effort to master (CDC-HKEAA, 2007). Against this background, teachers commented that some basic mathematical knowledge is essential for students to grasp certain economic concepts. Teachers expect that students should have already learned certain specific mathematical knowledge required in economics in junior secondary education. However, they find that this is not the case as a proportion of their students are not equipped with specific prerequisite mathematical knowledge and skills, and there is not enough time for them to train them in those skills in senior economics classes. This would increase the difference in students' learning pace.

Teacher A stated clearly the importance of mathematical knowledge in studying economics in the subject introduction session for S.3 students:

"Basically, there are no criteria for studying economics. When I introduced the subject (economics) to S.3 students for their consideration to choose this subject in S.4, I told them that their interest and mathematical ability are important prerequisite

requirements. So, the criterion I set is their result of mathematics in S.3.” (Teacher A)

To Teacher B and Teacher C, not only mathematical skill is essential, but language ability is also crucial.

*“To me, I think mathematics and language are crucial.”
(Teacher B)*

“Students learning (economics) in English are generally with a higher ability (when compared to those who learn economics in Chinese).” (Teacher C)

Teachers’ quick notice of the above difference is mainly due to the features of the economics curriculum. The evaluation or assessment format in economics is mainly using paper and pen, which focuses on assessing students’ cognitive ability. This would make students’ differences in this aspect very obviously identified, and may lead to the development of apathy in students, as discussed above.

(iv) Learning Style

Apart from the achievement motivation and intelligence, which are relatively easier to be noticed from students’ behaviours and academic results, Teacher B realises that students’ differences in learning styles also affect their learning in economics.

“You know every student may have his/her own learning style; some may like to use language to express; some may like listening to music; some may like visual materials.” (Teacher B)

To identify the different learning styles such as visual or auditory (Jonassen & Grabowski, 1993) in her students to cater for their learning needs, Teacher B designs different learning tasks for them so that they can achieve the learning outcomes based on their learning styles. Allowing students to choose the tasks based on their preferred styles is indeed a kind of student’s self-report of their preferred learning styles (Jonassen & Grabowski, 1993). Notwithstanding its effects on catering for learner diversity, according to Teacher B, this practice can only be carried out in junior secondary economics class because it is more flexible in terms of teaching contents and

schedule. In the face of the tight teaching schedule and pressure from the public examination for senior secondary economics, Teacher B could only adopt the conventional assessment method, i.e., paper and pen assessment.

Many teachers reflected that they face the same problem in relation to the curriculum coverage as mentioned by Teacher B above, and in response, they could only adopt direct instruction and conventional assessment formats. While it is commendable that teachers in Hong Kong are very responsible for preparing students to take the high-stakes public examinations, nevertheless, they need to recognise that their students have diverse learning needs and styles, and some of them are disadvantaged by conventional instruction and assessment methods. I am not stating that conventional method such as direct instruction should not be used in economics teaching, but instead, it could be a useful approach in helping students to clarify abstract economic concepts step by step (趙志成 & 何碧愉, 2009). In addition, previous researchers demonstrated that when responsive instructional approaches were used, students' standardised achievement-attitude test scores improved significantly (Honigfeld & Dunn, 2003). In light of this, the discernment of teachers for their teaching methods that take into account curriculum contents and students' learning needs is also a significant determinant of the achievement of students in public assessment.

(v) *Anxiety*

Anxiety is another reason identified by the teachers that would make students perform differently in class. Anxiety is “a transitory emotional state characterised by feelings of tension” (Spielberger, 1972, p.24 cited in Jonassen & Grabowski, 1993).

Teacher B finds that students in the senior form are generally anxious about expressing opinions in public for fear of losing face when giving wrong answers. They also tend to participate less in groupwork.

“You can see the effectiveness of grouping in helping students to express their ideas, which is a beneficial way of learning. However, this is less effective in senior forms as the students are so hesitant to express their ideas in public, and they may be

afraid of losing face when they give a wrong answer.” (Teacher B)

According to Teacher C’s observation, some students coming from the Mainland are afraid of speaking publicly in class and even in groups because of their poor Cantonese. This situation started to happen after the social event that broke out in Hong Kong in June 2019. During this period, some Mainland students felt anxious when facing Hong Kong students who emphasised “localism” and were hostile to Mainlanders. The reaction of these Mainland students can be regarded as “state anxiety”, which varies depending on an event or combination of events occurred at the time (Izard, 1972). It is expected that this anxiety will reduce and they will feel more relaxed in front of Hong Kong students when Hong Kong society returns to a more rational situation.

The emotional state of anxiety may cause positive effects that motivate and facilitate learning and negative effects that can disrupt and inhibit learning. The cases in this study show that students’ anxiety is a barrier for them to communicate with their classmates. Hence, it is essential for teachers to find ways to help them overcome this emotional state.

(vi) Summary of learner differences identified

Based on the teachers’ interviews, it seems that there is a great difference between students in their academic performance, and this is the most easily noticeable difference by the teachers. This situation is mainly a result of the placement system of elective subjects adopted by the schools. The sources rooted in the differences in academic performance are achievement motivation, ability, and prior knowledge concerning logico-mathematics and linguistics, learning style, and anxiety. These are common attributes of learner differences, as discussed in Chapter Three. The importance of these differences in students’ learning is amplified in Hong Kong secondary economics education, which is deeply influenced by the CHC which emphasises the public examination performance.

5.4.2. Elements impacting the effects of groupwork

Previous studies discussed in Chapter Three reveal that the impacts of groupwork on students’ learning are influenced by various elements. According to the interviews,

though only Teacher B and Teacher C arrange groupwork in their classes regularly, all of them find that arranging students into groups can create a collaborative atmosphere in the class that could effectively cater for learner diversity in relation to students' academic performance as well as their development of affect.

The teachers intend to provide more opportunities for students to learn from each other and express their views in their own language through groupwork. According to Teacher B and Teacher C, their ultimate objective of catering for learner diversity is to arouse the learning interest of those students who are less motivated with the hope that they can improve their academic performance in the end. From their sharing in the interviews, some elements impacting the effectiveness of grouping are depicted below.

(i) Group composition

For group composition, they all adopt the heterogeneous grouping or mixed ability grouping method by which the teachers place students with different levels of abilities in the same group with the view that the more capable students would offer help to the less able classmates. What the teachers believe here is in line with Vygotsky's view that lower achievers could model their classmates' behaviours in a group, and hence can perform more advanced tasks than they could perform as individuals (Dolittle, 1997). Mixed ability grouping is also a common strategy in handling students' differences in other studies (Maier & Keenan, 1994; Cohen, 1994).

"I usually use grouping in daily lessons to stretch the more able students and help the intermediate and lower achievers."

"You can see the effectiveness of grouping in helping students to express their ideas, which is a handy way of learning." (Teacher B)

Teacher C usually groups students to discuss questions, but it is not his major strategy to handle learner diversity.

"If the students' difference is mainly caused by intrinsic motivation, I would rather handle this problem individually. However, if the difference is mainly in their ability, for example, some operational ability, say the ability to draw curves,

comprehend the texts, and then use grouping to handle this. I will ask the more able students to group with those weaker ones to handle this issue through peer learning.” (Teacher C)

Apart from considering students’ ability, Teacher C also refers to students’ relationships in forming them into groups.

“If you know which students are friends in the first place, you put them in the same group. To me, if you can better arrange the members of each group, it will be fine at a later stage. They will ask questions on their own, which means those who cannot tackle the worksheet would ask their group mates.” (Teacher C)

Some research (Berndt, 1999; Brown et al., 1986; Kinderman, 1993) shows that social relationships influence students’ motivation to learn. Furthermore, previous studies indicate that peer relationships might influence learners’ attitudes and academic achievement (Nelson, 2008). In spite of the benefits on students’ learning, forming groups based on students’ relationships requires teachers’ acquaintance with the students in the first place, and it may take some time for the teacher to know their students well when there are only about four economics lessons per week.

(ii) The design of group task

This is another essential element in making groupwork effective in catering for learners’ diversity. In terms of tasks assigned to the groups, Teacher A finds it effective to assign tasks calling for different perspectives from the students. Therefore, students could contribute their own views to the same discussion topics.

“I used to form students in groups in my last serving school, and I usually assign them to discuss issues that require multiple perspectives. It is effective to use groups to help them to obtain diverse views toward the same issue.” (Teacher A)

Similarly, Teacher B forms students into groups to discuss current issues that do not have standard answers. To address the issue of diversity, Teacher B designs some differentiated worksheets with different levels of difficulty for the group to choose.

“For groupwork, I design tasks of different levels of difficulty and ask them to choose. I will tell them which questions are more difficult and see which groups are willing to choose those questions. Some groups do want to try.” (Teacher B)

Likewise, Teacher C assigns students to do worksheets and some enquiry tasks in groups.

“I do not use groups during the concepts illustration part as I prefer to use direct teaching with examples and non-examples and step-by-step manner to illustrate economics concepts. I would use grouping when they are asked to complete a worksheet. Sometimes, I would group them to do some enquiry work and to make some discovery.” (Teacher C)

For detailed examples of enquiry tasks, Teacher C assigns data-response questions (DRQ), a new type of question in the economics public examination, to students to do in group.

“In recent years, I assign DRQ (data-response questions) as group task. I want them to apply as many economic theories as they have learned when tackling the DRQ. I give them background information first and ask them to find the relationship between the information and economics concepts they have learned.” (Teacher C)

The tasks designed by the teachers are an essential tool for achieving their objective of forming groups to cater for learner diversity (Cohen, 1994). When the teachers assign students a worksheet to complete in a group, they aim to provide opportunities for their students to collaborate through the assistance of the higher achievers to the lower achievers. This type of collaboration can, on the one hand, enhance the less able students' understanding through the guidance of their counterparts, at the same time, the higher achievers can stretch their ability through elaborating what they have acquired to their group mates. It is believed that students' learning of some structured knowledge can be strengthened through reciprocal elaboration practices in the group,

and this will improve the students' academic achievement (Palincsar, 1998). Such impacts on students are observed in Teacher B's and Teacher C's economics classes.

"What I observe is that the more capable students usually finish their work faster than their classmates and take the initiative to help those who have not finished the task. They show me that they are willing to help the classmates who do not know how to do the tasks." (Teacher B)

"In economics, I think working on a worksheet together is very useful. Some smart students can finish very quickly. The weaker students may not be able to do it, and they may overlook some points. If their group mates can remind them a bit or see how their group mates do, they will get the hints." (Teacher C)

From cognitive developmental perspectives, grouping students to complete tasks can provide them with opportunities to discuss, argue, and present and hear one another's viewpoints, which could enhance their achievement (Slavin, 1996). Mixed ability grouping and customised worksheets and activities are important for facilitating the interactions required for successful groupwork (Maier & Keenan, 1994). Obviously, it is more beneficial for students to engage in enquiry tasks and DRQs through working in groups than individually.

(iii) Reward system

To raise grouping effectiveness, Teacher B and Teacher C think motivating students to learn is essential. However, they focus on the different motivations of students in different ways. Teacher B attempts to raise students' extrinsic motivation by rewarding group performance in the school assessment system.

"To me, I separate every class from all forms in groups and count group scores, which will affect their results in continuous assessment. There are 30% of continuous assessment marks counted in the final grade. 10% of class participation will be graded in the final grade. If students get higher group scores in

the class, their scores, in turn, will raise their results in continuous assessment.” (Teacher B)

Apart from scores, setting a group routine is also an effective way of monitoring students’ performance in groups. In order to “encourage” everyone in a group to contribute, Teacher B sets a rule that every member of the group should take turns to answer the teacher’s questions or present their groupwork.

“I also set a rule that students in the same group should take turns to answer questions instead of asking the brightest student to answer the question all the time. I found that the bright students would teach the weak students to answer questions in the race to get higher group scores. It is especially effective in junior forms as the students are active and eager to get scores. They will push the weak or quiet group mates to answer questions.” (Teacher B)

The reward mechanisms and individual responsibility for the score system will create a situation in which members of the group can achieve their own goals, if the group thrives. As a result, in order to achieve their personal goals, the members of the group must assist and encourage each other to do whatever it takes for them to succeed (Slavin, 1996). This reward system fosters the positive interdependence among group members (Doolittle, 1997). Also, the individual responsibility that teacher B promotes in groupwork can prevent free-riding problems where the majority of the work is done by a few group members. This reward system and individual accountability motivate Teacher B’s students to work cooperatively. The effect of the reward mechanism on group performance in Teacher B’s class is not consistent with Leung & Bond (1984)’s findings that in a particularistic culture, e.g., Hong Kong, the use of an equality-based grade allocation suggested by many western cooperative learning researchers e.g., Doolittle (1997) is unlikely to motivate CHC students. Nevertheless, under Teacher B’s reward mechanism, it is expected that even students with poor academic performance who are supposed not to have many chances to present in class are given the opportunity to share, and their intrinsic motivation can also be enhanced when their self-confidence is being built-up through more chances to participate in class activities.

Teacher C emphasises raising students' intrinsic motivation by empowering them through compliments after they have achieved their goals.

"Sometimes, I would use strategy like praising the students publicly when they do well in the class in order to empower them. After that their classmates would approach them and ask them questions. This is a way to raise their intrinsic motivation."

(Teacher C)

In terms of academic results, some students may be ranked the top in the class, but they do not have sufficient self-confidence to share their learning outcomes with classmates due to various reasons. It is hence essential for the teachers to recognise their ability and empower them. They, therefore, can play the role of assisting their classmate in the group, which would enhance the group's interaction and performance.

(iv) Students' Learning Habits

Teacher A arranged group activities in class regularly in his previous-serving school. However, he finds that groupwork does not work effectively in his present school because the students in this school do not habitually work in groups. He pointed out that students' habit of groupwork causes the difference between their attitudes towards grouping.

"(In the last-serving school) I think the main drive was their willingness to express and share ideas. The students were used to presenting in groups and the public when they were in junior secondary, and that is why they felt easy to present in front of people. While in my present school, I feel that the students have been learning individually since they were in primary school."

(Teacher A)

Teacher B's experience also shows that students' learning habits determine.

"Actually, they were grouped at the beginning of the school term. They sit in a group automatically from the beginning of the lesson. They have this habit." (Teacher B)

The experience of participating in groupwork also shapes how students perceive learning. According to social constructionists, knowledge is co-constructed among learners through interactions (Andrews, 2012), leading to routinisation and habituation (Berger and Luckmann, 1991), which form a general store of knowledge (Andrews, 2012). Students who are familiar with groupwork may regard learning as a co-construction process, and they can learn from each other through interactions. On the other hand, students who do not have a habit of grouping may perceive learning as an individual business. This inference is in line with Teacher A's observation.

"I clearly remember an incident that after the lesson ended a student asked his classmates to hide their handouts as he did not want the students of other classes to see their handouts when they come to this classroom." (Teacher A)

The conception of learning of Teacher A's students differs from the majority of those in collectivistic cultures such as the Chinese, as they appear to be relatively individualistic and look primarily after their own interests (Popov et al., 2012).

Teacher A opined that the learning habit of his students is related to their socio-economic status (SES) which is usually determined by their parents' educational level, occupational status and income level (Jeynes, 2002, cited in Razia, 2015). The SES of his current students is generally higher and they can obtain sufficient support from their family, for example, parents can hire private tutors to help them academically.

"Recalling my teaching experience in the first school, the family background of the students was not strong, so they realised that they need to learn from each other. Hence, they would be willing to share in order to learn more. On the contrary, students in this school think they can ask their private tutors if they have anything they don't understand. They can get a great support from their family and hence they don't think there is a need to share in the school." (Teacher A)

Teacher A's opinion arouses my interest in exploring the relationship between SES and students' learning style that I was unaware of when I conducted my literature review.

In his study on the relationship between secondary school students' study habits and their SES and gender in India, Razia (2015) finds that students' study habits are linked with their SES. Following Teacher A's logic, I can infer that students from a high SES background may develop a sense that learning can be done independently. This inference is consistent with some findings which reveal that students with lower SES are more collaborative and thus more likely to favour group learning and disfavour individual learning; whereas students with higher SES prefer individual learning to group learning because of their competitive style of upbringing (Slavin, 2006, cited in Huseynpur et al., 2015).

Apart from the above elements, I found some other features of students that would affect participation in groupwork identified by the teachers that were quite specific to Hong Kong's context and discussed in my literature review in Chapter Three. I will analyse those features in the following section.

(v) *Personal communication style*

According to Teacher B, students' personal communication style affects how they perform in groups.

“Some people are too shy to speak up. Sometimes some groups do not communicate at all. This is unavoidable. Even though there may be a smart student in the group, if he/she does not like to communicate with others, even the teacher cannot ask them to speak up, not to mention their group mates. Those students are just willing to say one or two sentences, and their weaker counterparts will not like to ask them further next time.”

(Teacher B)

In fact, difference in communication styles is an attribute of learner differences. Students may not be willing to communicate with others for various reasons such as their own characters or some hidden emotional issues that require due attention from the teachers. It is also worth noting that working in groups may exert unnecessary pressure on these types of students when they are “forced” to learn under close monitoring from others in the group.

(vi) Gender

In comparing the teaching experience in a co-educational school to a boys' school, Teacher A gets the impression that boys are more reluctant to share views with others.

“I think gender could make a difference. It is easier for co-ed students to discuss in a group. It may be because boys and girls have different perspectives. They have different intentions to discuss. In a co-ed class, girls are eager to speak out, and boys speak out to draw attention. Nevertheless, in a boys' class, boys tend not to speak and share. They are not willing to communicate at all.” (Teacher A)

Teacher A's observation reflects Heffler's study (2001) which involved a total of 155 students in a general psychology course at the Department of Psychology, Stockholm University. He found that male and female learners differ in their learning and instructional preferences. Female learners tend to prefer hands-on learning experiences and make judgement on the basis of their intuition or feeling. They are people-oriented and accept ambiguity. Male learners tend to take an analytical approach to their learning, think rationally and logically, and enjoy working with symbols and structure (Heffler, 2001). These differences may, in turn, account for their differences in communication styles. From the perspective of leadership, in general, females are more articulate, tentative, and respectful in conversation, while males are more strong-willed and power-hungry (Basow & Rubenfield, 2003, cited in Merchant, 2012). In addition, in their relationships with others in society, females tend to be more sociable in their interactions with others, while males value their freedom (Chodorow, 1978; Dinnerstein, 1977; Eagly, 1987; Grilligan, 1982; Miller, 1976, cited in Merchant, 2012).

Yin et al.'s recent quantitative study (2020) involving some 6000 junior secondary students in Hong Kong also reveals interesting findings in the comparison of gender and achievement-level differences. For the group and structured learning, girls showed a stronger preference than boys. However, for the learning styles involving discovery, experiment, and observation boys scored significantly higher than girls. These results

partly echo Severiens and Dam's (1997) suggestion that males favour the abstract conceptualisation mode of learning more than females (Yin et al., 2020).

Though the findings of the above studies are context specific and cannot be over generalised, they can enrich our understanding of the gender differences in communication and learning styles. Also, I am wary of stereotyping in concluding that boys are not good at communicating with others but the findings of the above studies align with my daily contact with students when I was teaching in secondary school. This was also an observation made by the teacher in the pilot interview.

Although the studies reveal that boys disfavour working in groups, it does not mean that groupwork should not be organised in boys' class. Instead, it may be necessary for teachers teaching boys to think carefully about the design of group tasks in order to respond to many of their learning needs, for example, setting them tasks that require more analytical and logical thinking skills.

(vii) *Language barriers*

Teacher C finds that the language barrier affects students' performance in his economics classes.

"The students coming from the Mainland are eager to learn. However, due to their lack of fluency in speaking Cantonese, they are less confident in class and dare not to ask questions and express views in groups. For example, we are now conducting lessons on Zoom, and they only ask you questions after the Zoom meeting. They ask when other students leave, and they are silent during lessons or when other people are present." (Teacher C)

Apart from the cultural context, language plays a critical role in social constructionism. Burr (1995) comments that language is a means of making thought possible by constructing concepts within the framework of social constructionism. However, the Mainland students may think if they could not speak Cantonese well, they could not express their thoughts clearly and freely so it is hard for them to co-construct knowledge

with their Hong Kong classmates. Language forms a barrier for them to interact with other students.

(viii) Age

According to previous studies discussed in Chapter Two, maintaining “face” seems to be shared by learners in CHC classrooms and they, therefore, refuse to verbalise their ideas for fear of being incorrect which may lead to humiliation (Chan, 1999). Teacher B’s and Teacher C’s observations tell us that, as students get older, they are concerned about “face” more. They found that students in junior forms tend to be more willing to participate in class activities and express ideas in groups more freely. However, they become less active when they are promoted to senior form.

“I found that the bright students would teach the weak students to answer questions in order to get higher group scores. It (the scoring system) is especially effective in junior forms as the students are active and eager to get scores. They will push the weak or quiet group mates to answer questions. Surely, the participation rate will diminish in senior forms.” (Teacher B)

“Students in junior forms are very simple and active, and they are eager to answer questions. I think it is a common problem for teenagers. Nevertheless, it also depends on how the teachers provoke students’ thinking through the question.” (Teacher C)

Teacher B’s and Teacher C’s observations concerning the effects of age on students’ participation in groupwork are supported by a recent large scale quantitative study conducted by Yin et al., (2020) on learner diversity from the perspectives of students’ learning styles and approaches mentioned above. The findings showed that Hong Kong’s junior secondary students scored the highest in group orientation, marginally lower in discovery, experimental and observation class activities, and the lowest in structured orientation. These findings indicate that they favour group discussion and collaboration in learning over learning strategies such as scheduling, making plans and taking notes (Yin et al., 2020). They also reflect Teacher C’s remark on the relationship between how a teacher provokes students’ thinking and students’ participation in groupwork. When maintaining face is a typical behaviour among teenagers, I believe

that it is essential to design groupwork so that every student, regardless of their ability, can participate and make contributions. From the group design discussed above, these three teachers realise the importance of utilising the group dynamics through assigning tasks that can draw students' different viewpoints instead of asking them for correct and standard answers. As such, students are more willing to express ideas when there are no right or wrong answers. Most importantly, their contribution of views is co-constructing their learning of the specific topic.

(ix) Teaching style

All the participants agree that teachers' teaching style determines the effects of groupwork. In a learner-centred class, the teacher is regarded as a facilitator and plays an essential role in students' learning. If a teacher is eager to create a more interactive learning environment in the class, students will be provided with more opportunities to communicate with the teacher or their classmates. With the passage of time, they may find it more natural to express views in the class. Also, I believe that it is important for teachers to teach students communication skills that emphasise the importance of mutual respect and acceptance in order to create a safe environment for students to communicate freely in groups. This strategy is stressed by Slavin (2006) in creating a conducive environment for grouping arrangement; he points out that a few classroom practices, for example, teaching students communication and helping skills, could make groupwork more effective.

To Teacher A, a teacher's style directly affects students' perception of the meaning of knowledge, which, in turn, affects how they perform in groups and class,

“And sometimes teachers here (in the current school) may also ask their students not to share handouts with students in other groups. Some people (teachers) in this school may indirectly convey such a message to the students that they should not share learning with others.” (Teacher A)

Teacher B highlighted the importance of teachers' responses to students' sharing that would definitely provoke the interaction among students.

“When the teacher picks up the good points raised by the students and makes it a topic to further discuss in a class or group, the atmosphere in the class would be very good.”

(Teacher B)

Teacher C also shared similar views that teachers’ ability to ask thought-provoking questions in groups and create a suitable environment determines the effects of group discussion.

“It (the teachers’ style) is crucial. First, if the teachers can ask some thought-provoking questions, students would be more eager to participate. Also, if the teacher can provide an open and fun learning atmosphere, students are more willing to participate.” (Teacher C)

(x) Class size

Some elements affecting groupwork are out of the teachers’ control, for example, the class size and the teaching schedule of the curriculum. Teacher A reflected that his economics class consists of about 40 students, making it hard to arrange them in groups as there is not enough space in the classroom. The class size of economics in Hong Kong varies. In some schools, when more students select it as an elective subject, there can be 40 students in the same group while in some schools where economics is not a popular elective subject, the number of students can be around 10-15. This is a crucial issue for teachers to decide whether to arrange groups or how to group the students. It is especially difficult when the size of the classroom in Hong Kong secondary schools is not sufficiently spacious to accommodate a large class size.

5.4.3 Summary of the elements affecting groupwork

Based on the experience of the participant teachers, groupwork is effective in addressing learner diversity under certain conditions. For example, when the group is composed of students with mixed abilities the more capable students are willing to assist the less able. Teachers design specific worksheets or tasks so that each group member, regardless of their ability, can make contributions thus raising students’ intrinsic and extrinsic motivation through rewarding mechanisms or empowerments. In addition, developing students’ habits of working in groups can help them to become

accustomed with sharing ideas and collaborating with others. Nevertheless, some elements may hinder students' learning in groups, for example, personal communication style, language barrier, gender, age, teachers' teaching style and class size.

5.5 Conclusion

In this Chapter, I have presented the data collected from the teachers' interviews, discussing it in light of the literature reviewed. The three participant teachers reflected that learner diversity exists in their economics classes. According to them, the most apparent evidence that illustrates students' differences is their academic results. The teachers quickly notice this even at the beginning of the school term due to the placement allocation of the elective subjects of the schools. After learning more about the students, they can identify other sources of difference, including ability, achievement motivation, prior knowledge, and anxiety. Social and cultural backgrounds can also contribute to diversity in class.

The above elements are not independent from each other but rather inter-related. For example, students' achievement motivation is affected by their ability level. Under the conventional pen and paper assessment in economics, students who have lower ability would probably obtain less satisfactory academic results. Without proper guidance and assistance, students' achievement motivation will be weakened when he/she gets poor results repeatedly. This will, in turn, form a vicious cycle in their learning: Low motivation adversely affects their learning attitude and with poor learning attitude they may lose the interest to learn. As a result, knowledge they can acquire would be limited and they obtain poor academic performance once again. This negative impact on students' learning and affection is manifested when teachers' and students' perception and conception of education is influenced by CHC in which students' academic performance is highly prioritised.

To handle the issue of learner diversity, all the participant teachers place students with mixed abilities in the same group with the view that the high achievers would assist the less able ones. Also, they assign specific tasks for groupwork, such as discussing a social issue from different perspectives. Based on their sharing, it is found that students

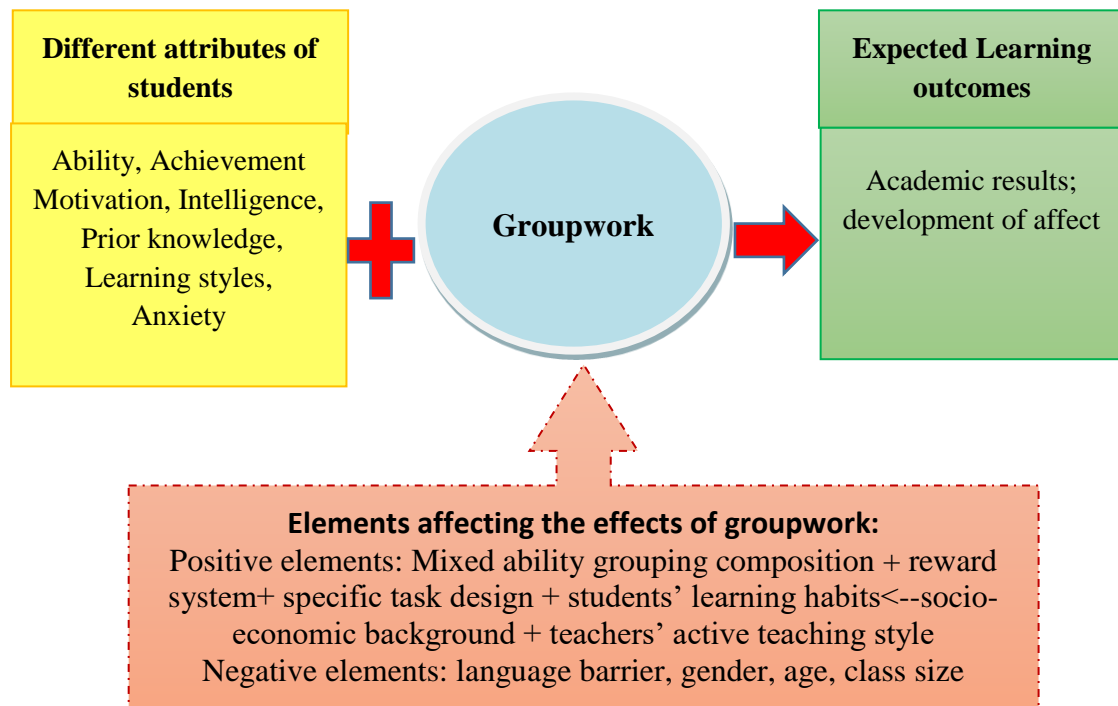
who are familiar with learning in a group are more amenable to it, which facilitates the groupwork. Notwithstanding the benefits of adopting groupwork in catering for learner diversity, there are some hindrance elements, namely, students' communication style, language barrier, gender, age, teachers' teaching style, and class size, limiting the effects of groupwork on students' learning.

Following the same logic of analysing learners' differences, elements affecting the effects of groupwork are not independent. When the teachers consider the composition of their groups, they should also prepare appropriate tasks for the group to accomplish. At the same time, teachers' styles in creating the discussion atmosphere in class and groups play an important role in facilitating the interaction of students in groups.

All in all, learning is a dynamic process involving students and teachers who all have their own backgrounds including cultural and subcultural backgrounds affected by the type of education they receive, which shape their perceptions of and approaches to learning and teaching. Hence, students can be diverse in a combination of attributes, and teachers should use a mixture of strategies to make their teaching effective.

Based on the data collected from the teachers' interviews, I reviewed and enriched my conceptual framework below with additional elements impacting groupwork i.e., students' learning habits, specific task design, language barrier, gender, age and class size.

Figure 4 Revised conceptual framework of catering for learner diversity through groupwork in class with reference to the findings from the teachers' interviews



Chapter 6

Findings and analysis of students' focus-group interviews and lesson observations

Part A: Students' focus-group interviews

6.1 Introduction

Following my presentation and analysis of the data from teachers' interviews in Chapter Five, in this chapter, I will display and discuss the data collected from students' focus-group interviews and lesson observations. Due to the COVID-19 pandemic in Hong Kong, the schools have been suspended since June 2020, and it was expected that they would not resume face-to-face teaching until October 2020. Rather than delay my data collection, therefore, I decided to conduct the student focus groups before lesson observations as scheduled in my plan described in Chapter Four, and I collected the data via the internet. Part A of this chapter focuses on the findings of students' focus group interviews while Part B will discuss the findings collected from lesson observations.

6.2. Data Collection

Before the data collection process, I obtained the consent from the school principals who agreed that their students could participate in the focus-group interviews and lesson observations. I conducted three focus groups with students from the economics classes of the three participant teachers. All the students were fully informed of the objectives and process of the focus groups and how the data would be used. I invited the participant teachers to select four to five students for the groups and requested that they ask them to turn on their camera during the process. During the focus groups some students did not turn on their cameras due to some family reasons such as living in a cramped environment, even though I reminded them to do so. To respect their privacy, I did not insist on this. Hence, I could not see the facial expression of some of them. In all three groups, boys were relatively more eager to answer and discuss my questions than the girls. Overall, all the focus groups were conducted smoothly; most of the students responded to my questions actively but the discussion and interaction among them was limited. The focus group questions were designed based on the conceptual framework in Chapter Three and shown in Appendix 9:

6.3 Descriptions of the senior secondary curriculum in Hong Kong and students' background

To provide more information about the contextual background of the findings, the senior secondary curriculum, and students' background will be described briefly below.

a. The senior secondary curriculum in Hong Kong

The senior secondary in Hong Kong takes three years from S. 4 to S. 6. Students sit for the Hong Kong Diploma of Education Examination in S.6, which marks their completion of secondary school education. During these three years, students are required to take four compulsory subjects, i.e., Chinese, English Language, Mathematics and Liberal Studies, and two to three elective subjects. The common system of placing students to different electives adopted by schools was described in p.62 Chapter Five. Though the basic admission requirement adopted by local universities is "4 compulsory subjects + 1 elective", many students study two or three elective subjects in S. 4. Usually, students with better academic results would take three elective subjects. Some students, however, may drop one of the elective subjects in which they do not perform satisfactorily in S. 5 with the view to putting more time and effort into studying the remaining subjects. As described in Chapter Five, students taking science subjects usually have higher academic results, and they study economics, mainly due to their interest. On the other hand, in general students who mainly take humanities subjects e.g., economics, geography, Chinese history, are relatively low in academic achievement.

b. Student Participants

Due to the closure of schools, I could not contact the students directly before the focus groups and therefore could not select the students myself. I could think of no other solution but to ask the participant teachers to select students for me. I was aware that this practice might not meet the objectives of my study so I reminded the teachers to select students with diverse backgrounds e.g., their ability levels, the degree of their participation in class activities, their first language and their elective subjects with the aim of achieving the purpose of the focus groups as far as possible.

To facilitate the understanding about the students, I summarise their details in Table 2

below.

Table 2 Profile of the students participating in focus groups

Students	Sex: B-Boy; G-Girl	Form	Elective subjects taken	Academic level	First language
A1	B	S.5	economics, physics, chemistry	High	Cantonese
A2	B	S.5	economics, physics, chemistry	High	Cantonese
A3	B	S.5	economics, biology, chemistry	Above average	Cantonese
A4	B	S.5	economics, physics, chemistry	Above average	Cantonese
B1	G	S.5	economics, ICT*, **mathematics M1	Above average	Cantonese
B2	G	S.5	economics, history	Below average	Putonghua
B3	B	S.5	economics, ICT, ***mathematics M2	Above average	Cantonese
B4	B	S.5	economics, ****BAFS, mathematics (M2)	Above average	Cantonese
C1	B	S.4	economics, Chinese history, geography	Average	Cantonese
C2	G	S.4	BAFS, economics	Average	Cantonese
C3	B	S.4	BAFS, economics, ICT	Above average	Cantonese
C4	B	S.4	BAFS, economics, Physical Exercise	Above average	Cantonese
C5	G	S.4	economics, Chinese history; geography	Below average	Putonghua

(*ICT- Information and Communication Technology; ** M1- Calculus and Statistics; *** M2- Algebra and Calculus; **** BAFS- Business, Accounting and Financial Studies)

Teacher B and Teacher C selected one student who came from the Mainland when they were in junior secondary with less proficiency in Cantonese to participate in the focus

group. The other students were local to Hong Kong. Furthermore, we can see that students enrolled in all humanities subjects, i.e. B2 and C5, have an academic level that is below average, while Teacher A's students' elective subjects are all from the science stream, and they perform better academically. This pattern corresponds to the teachers' expressed beliefs in this study that students with higher ability tend to be more science-oriented. I believe that the background of the students selected was sufficiently diverse to enable them to contribute useful information in the focus groups. For confidentiality, I assign each of them a predefined code in the presentation of data, i.e., A1, refers to a student from school A and so on.

6.4. Findings

The students from the three classes all found differences in learners in their economics class. Students of Teacher C reflected that the differences are not significant.

“I think there is a learner difference in my class, but the difference is not that great. Because we take three electives in this group, and most of us are eager to learn.” (C4)

a. Types of learner differences

Most students notice the differences among their classmates by observing their behaviours in lessons and their assessment results. However, since there was a long period of school suspension due to the pandemic in the last school year, they could hardly learn much about how their classmates behaved and performed under online learning and assessment. Students of Teacher A and Teacher B were in S.5 at the time of the focus group, and they shared their observations from S. 4.

(i) The pace of understanding the teaching content

Almost all the students reflected that the pace of understanding the teaching content among their classmates varies. They noticed the difference by observing their classmates' responses to teachers' questions in the class.

“When the teacher asked a question, some classmates could answer the key points right away, but some needed teachers' assistance.” (A1)

“Some students may need the teacher to repeat several times in explaining the same concepts before they could understand.”
(A4)

“I think there is a difference in learning efficiency among my classmates. Some of them could grasp the teaching contents very quickly, while some of them did this relatively slower.” (B2)

Apart from the response to the teacher’s questions, students in Teacher A’s class noticed the different learning pace among them from the time taken to complete the assessment tasks during the lesson.

“... by observing the performance in daily lessons, when the teacher assigned classwork to us, we saw some could finish quickly, and some finished relatively slower.” (A1)

“The difference in my class is great. Some classmates could finish in 10 minutes, while some did not only take longer but needed to seek assistance from the teacher for almost all the questions. Moreover, the results are of great difference as well.”
(A4)

From the students’ sharing, I realise the importance of continuous assessment in identifying students’ learning needs. Less able students may not be able to keep up with the lesson at the same pace as their classmates; continuous assessment can help the teacher identify who needs more guidance and offer help and feedback to the student immediately. So, the difference in their learning will not be increased by accumulating gaps in their knowledge. This observation is also supported by the sharing of students in Teacher C’s class.

“I think there is no learner difference in my class. The teacher asks whether we understand or not from time to time. He would help those students who cannot catch up.” (C3)

Due to various learning styles or motivations students possess, some students may not take the initiative to ask teachers questions, and hence it is not always easy for teachers

to identify students' learning needs in lessons. B1 learned that some classmates did not keep up with the teaching as some asked him questions after school via Whatsapp.

"Some classmates understand faster and some slower. I found some classmates did not understand the contents after the class or even after several lessons, and they asked other classmates or the teacher." (B1)

The learning gap between students will increase if they do not ask their teachers or classmates as they may accumulate misconceptions or not be able to master something. As a result, their difference in the academic results in summative assessment would be noticeable.

(ii) Academic results

The other difference among their classmates is their academic results. Similar to the sharing of the participant teachers, students' academic result is an apparent difference. However, due to COVID-19, students could only attend online lessons, and they could not know the academic results of their classmates. Only Teacher A's and B's students who were in S.5 when they were interviewed could know their class's academic results in S.4.

b. Grouping arrangement

Teacher B organises groupwork regularly in her class. She also arranges groups in online lessons. Her students have positive feedback on groupwork in helping their learning of economics.

"I think it is good to have grouping even in online lessons. There are 28 students in my class, and some classmates find it embarrassing to ask the teacher questions in front of the whole class. So it is good to have groupworks'." (B3)

"I think it (groupwork) can help classmates randomly allocated to different teachers' groups. I was not familiar with some of them, and they could not ask us questions through Whatsapp, and then they can take this opportunity to ask us in the group, we

learn a bit faster.” (B4)

From B4’s sharing, I discovered that Teacher B’s intention of a mixed-ability grouping arrangement was not recognised by her students, who think that the teacher simply groups the students randomly. Positively speaking, this ignorance on their part may avoid the labeling effects on students, particularly those whose ability is relatively lower.

Elements that can facilitate groupwork were generated from students’ sharing and described below.

c. Elements facilitating groupwork

(i) Common “language”

Similar to the teachers’ comments in Chapter Five, B4 thinks it is easier for them to communicate in their “own language” by using fewer technical terms.

“I think it is helpful. As we are students and we understand our language easier. Sometimes the concepts taught by the teacher are difficult and complicated. Classmates can simplify the contents, and their classmates can understand it easier.” (B4)

To social constructionists, the role of language is critical in learning (Burr, 1995). Here, common language refers to “teen’s language” which allows the students to express their ideas and views freely, and this “freedom” can facilitate the co-construction of knowledge among themselves. It is especially true for economics, which involves many technical terminologies that may hinder students’ understanding of the concepts. Sometimes, it is not the concepts themselves the students find hard to master, but the terminology used in the concepts creates complexity. As an economics educator, I learn from my past teaching experience that students can grasp the concepts if they can explain them in simple language. Hence, being in groups provides them with opportunities to practise explaining concepts to others in simple language.

(ii) Supportive environment

Students have different communication styles; for example, some may feel uneasy to ask questions in class. B1 observed that some students are too embarrassed to ask the teacher questions in front of the whole class, so groupwork provides them with more

opportunities to ask questions.

“I think it is helpful too. Some classmates are afraid of asking the teacher questions in front of the whole class. They do not want to disturb the teaching schedule as well. It is more relaxing to ask questions in a group as we are all classmates.” (B1)

Students’ feelings of embarrassment in raising questions or expressing views in class are not uncommon in Hong Kong’s classrooms. This situation could be explained by Hong Kong students’ cultural backgrounds and the high value they place on group harmony and maintaining face (Chan, 1999) and perception of power in relation to their teacher (Park et.al., 2012), in that they regard the teacher as the authority. To them, direct and assertive enquiries can be considered potentially face-threatening acts (Merritt & Helmreich, 1996). Therefore, in an open classroom they would be reluctant to “stand out” by voicing their views or raising questions, especially if this could be seen as expressing public disagreement (Littlewood, 1999).

In empowering such students to be more interactive in learning in class, the face-to-face promotive interaction in groupwork in which students influence each other through their help, support, encouragement and recognition of the efforts of each other serves as the enculturation and social mediation strategy informed by a Vygotskian framework (Johnson and Johnson, 1999). Though the teachers may not be aware that their approach is informed by Vygotskian theory, this theoretical framework is already embedded in their daily practice as they should all have learnt it when they studied for the Postgraduate Diploma of Education.

(iii) Group composition

Students of Teacher B recognise the advantages of grouping in handling the problem of learner diversity. B4 is a relatively able student, and he shared that his learning of economics can be improved, and his ability could be stretched by teaching his classmates.

“I think teaching my classmate can help me review the concepts. For example, the concept was taught in the previous lessons, and the teacher moves on in the current lesson. When my classmates

ask me the concepts taught in the previous lessons, I can review what has been learned.” (B4)

B4’s reflection reveals one of the advantages of peer or group learning. Through the reciprocal elaboration practices in the group, students can elaborate on the knowledge they have acquired in their own words, and this action will deepen their learning. Also, when they explain to or are asked by their group mates, they may find some learning gaps that they did not realise before. All these opportunities can help them stretch their ability and enhance their learning. As a result, their academic achievement will improve (Palincsar, 1998).

Not only the able students find that groupwork allows them to stretch their ability, but less able students also find it helpful in allowing them to ask questions and solve their problems with the help of classmates. B2’s academic result is below average, and she always feels less confident in the class. She appreciates that groupwork allows her to ask questions in a small group.

“I think groupwork is good. Sometimes when the teacher asks us if we have any questions, it is too embarrassing to ask questions in front of the whole class. There are only four classmates in a group, and hence it is less embarrassing to ask questions in the group, and I am more willing to ask in a group.” (B2)

Their sharing reveals the benefits of catering for learner diversity through mixed-ability grouping. It is also supported by research that proposes heterogeneous grouping with mixed-ability learners for facilitating group interaction (Saleh et al., 2005).

(iv) The design of group tasks

Teacher B organises groupworks in her economics class regularly. She arranged a group discussion in the online lesson, which I participated in as an observer (the findings of the observation will be discussed in Part B of this chapter). The students in her class reflected that they could think widely and deeply through group discussion.

“I think the teacher can ask us to provide more examples through a group arrangement. Just like what we did in the lesson. Teacher B taught us about the Human Development Index (HDI)

just now, and she asked us to provide more examples that would affect HDI, and the classmates could provide many examples.”

(B4)

The student's views above demonstrate that the design of group tasks is essential in economics groupwork. It is also supported by the case in Teacher A's class. Teacher A revealed in the interview that his students are not accustomed to working in groups in their economics classes. His students opined in the focus group interview that they prefer to learn economics independently because the questions in the economics public examination are always straightforward with standard answers, and hence it is not meaningful to have group discussions. Therefore, to them, it is more effective to complete the task independently.

“The questions in economics usually have model answers, and you only need to get the right model answers to get a score. In this case, group discussion is not meaningful.” (A2)

Though they do not have experience in groupwork in economics, they appreciate that it is a suitable method for collecting different points of view through the co-construction process in group discussion. A1 and A2, based on their experience of working in groups in the subject of Liberal Studies, which requires students to discuss social issues from various stakeholders' perspectives, agreed that group discussion could help them collect more views.

“I would like to add more views. The work I prefer to do on my own is those with standard answers. However, for those open-ended questions, I think it is better to have a discussion. Since different people may have different perspectives, we can get more views from the discussion.” (A1)

“We have groupworks usually in L.S. (Liberal Studies), and I think we can learn more through this arrangement when comparing to studying on my own. It is because, just as A1 has said, we can collect more perspectives in answering the question. When you face a similar question in the examination, it is easier for you to answer with more content.” (A2)

From students' sharing, we see that students appreciate the learning opportunity, which can help them co-construct knowledge with their classmates. Teacher A's students find groupwork may not be an effective way of learning economics due to the public examination requirements, which usually require standard answers. When examining their rationale in depth, I think their underlying concern may be influenced by a CHC conception of learning. As discussed in Chapter Two, in Chinese, the term "knowledge" is made up of two characters. One is "Xue" (to learn), and the other is "Wen" (to ask) (Liu & Littlewood, 1997; Cheng, 2000). Questioning and enquiring is central to the quest for knowledge. In light of this perspective, the comments on groupwork from Teacher A's students reflect their desire for a deep-learning approach that involves thought-provoking learning tasks. As Cortazzi and Jin (2001) suggest, "Chinese students are not passive but reflective...Chinese students' value thoughtful questions which they ask after sound reflection..." (p.191). From this perspective, task design specifically for groupwork is essential in helping students learn. Many research studies on economics education suggest that working in groups increases students' deep learning, allowing them to apply economic theory in real-world contexts (Cohn, 1999; Marburger, 2005; Yamarik, 2007). Their analytical skills and the mastery of economic concepts will be enhanced (Cohn, 1999).

The objectives of the Economics Curriculum in Hong Kong expect students to apply economic concepts to explain real-world phenomena. In addition, starting from 2019, besides the conventional questions, the public examination incorporates one data-response question (DRQ). Though the main focus of the public examination is still standard and precise answers, the essay-type question in the DRQ allows students to evaluate government policies and offer solutions for certain economic issues, providing students with autonomy to respond as long as their claims are backed by the principles or theory of economics. I do not advocate drilling in DRQ in daily lessons here, but I agree that the implementation of DRQ provides teachers and students with an opportunity to change their emphasis on studying economics from memorising concepts to applying theory and from precision to openness. A little change in the public assessment calls for a change in the paradigm. Reluctance to change may place students at a disadvantage. Hence, it is advisable for teachers to attempt to organise groupwork with appropriate group tasks in daily teaching to allow students to develop their analytical skills by collaborating with their classmates.

(v) ***Expectation of grouping arrangement***

Like Teacher A's students, Teacher C's students also did not have any opportunity to join group activity in economics in the past few months due to the suspension of face-to-face teaching. At the same time, it is also understandable that it may be less effective to require students to do groupwork at the early stage of learning economics in S.4, as the curriculum consists mainly of factual knowledge.

Hence the students of Teacher C have the following views about groupwork:

"I prefer face to face teaching as the teacher can teach us step by step. He also tells us which area that we cannot grasp well, especially on drawing diagrams. Though it takes time, it is effective in making sure that we all understand. Even if we are in groups, some groups may not communicate and function. Therefore, I think the teacher's attention to each individual of us is more effective." (C3)

"There are some capable classmates in my class, and they can teach the less capable ones. However, they may not be able to teach them well, and hence teachers' individual help is more effective than grouping." (C2)

Students of Teacher C pointed out a critical concern associated with groupwork. According to constructivists, an individual learner develops higher mental functions such as language, logic, and problem-solving skills when collaborating with others, particularly with more knowledgeable peers or adults (Doolittle, 1997). However, learning outcomes of the students when participating in groupwork may not be realised as the theory predicts. It is also hard for teachers to guarantee the accuracy of the knowledge sharing during the groupwork. Nevertheless, for learner-centred education, we should not focus merely on the accuracy of the answers but also emphasise developing students' broader perspectives and generic skills. Of course, this change of focus involves a paradigm shift of both the teachers and students. It is especially not an easy task for them under the examination-oriented tradition in Hong Kong's education. In spite of the strong influence of public examination on the daily learning and teaching of economics, I am encouraged to learn that the teachers participating in the study have

put efforts into catering for students' individual needs through various strategies such as groupwork and individual care to students.

d. Reflections

Interestingly, the elements of language barrier, age and gender that the teachers suggested can impede groupwork were not mentioned in students' focus groups. To me, this discrepancy is understandable as teachers and students may have different perspectives and reasoning for students' low participation in groupwork given that they have a richer understanding of students based on their teaching experience. Also, students themselves may not attribute any importance to elements such as age and gender but they are worthy of teachers' attention when organising groupwork.

6.5. Summary of Part A

The background of the students participating in the online focus-groups is diverse. They came from three different schools. Two groups were studying in S.5, and one group was studying in S.4 when the focus groups were conducted. Each group was composed of students taking other elective subjects and with different levels of academic ability. All the students recognise learner diversity in their economics class. The main differences they could identify are the learning pace and academic results. They observed such differences by their classmates' responses to teachers' questions in class, speed of completing classwork, and classmates asking them questions after class.

Two groups of students did not have any groupwork experience in economics classes. Their perception of groupwork is not favourable, and they prefer to study independently and through teachers' direct teaching. Nevertheless, they think groupwork could be meaningful in tackling questions that do not have standard answers but require multiple perspectives. Students of Teacher B had group activities regularly in their economics class, and they tended to have positive comments about groupwork. They reflected that it can help them express views and ask questions in a more relaxing environment, and they can co-construct knowledge involving various viewpoints and cater for learner diversity among themselves.

From their perception of groupwork, I can infer that the design of group tasks, group composition, and a supportive environment are essential elements for making groupwork effective in diverse learning groups. It is also noteworthy for teachers and

students to shift their emphasis from the accuracy of knowledge to whole-person development. In the conceptual framework in Figure 5 (p.109), I have added common language and supportive environment as the elements affecting groupwork collected from students focus groups to further enrich the framework.

Part B: Lesson observations

6.6 Data Collection

To better understand the learning differences between the students and how teachers cater for those differences, I planned to conduct class observations in the three participating teachers' economics lessons. However, due to COVID-19, the teachers could only conduct their lessons online.

The observation notes shown in Appendix 10 are the planned focus of the observations; however, it was not possible to observe some of them through online teaching, such as the lesson's atmosphere and peer-to-peer relationship. In addition, only Teacher B arranged a group discussion in the lesson; hence the analysis of the groupwork in the following section focuses only on Teacher B's lesson.

The lessons observed were conducted online via Zoom. To provide more information about the contextual background of the findings, some information concerning the three lessons is outlined in Table 3 below.. Due to the time clash with my work, I was only able to join Teacher C's lesson synchronously as an observer. Teacher A and Teacher B recorded their lessons for me to analyse. The consent for my participation in the lessons was obtained from the principals, teachers and the students at the beginning of the research.

Table 3 Outline of the lessons observed

Teacher/ Duration (minutes)	Class size	Topic	Prior knowledge/ Main skills required	Instructional strategy adopted	Medium of instruction
A/40	32	Profit maximisation and output determination	Production cost & Revenue /Mathematical and graphical skills	Direct instruction; in-class quiz (past examination MC	English

				question)	
B/90	23	Economic development	GDP/ Comprehension and creating skills	Direct instruction, Q&A and group discussion	Cantonese
C/75	24	Price elasticity of demand	Law of demand /mathematical and graphical skills	Pre-lesson quiz, Direct instruction; Q&A	Cantonese

Teacher A conducted the lesson in English, which is the medium of instruction at his school, but some of his students struggled to communicate in English. Teacher B and Teacher C both taught in Cantonese, even though some of Teacher C's students took the public examination in English. In the three lessons, direct instruction was used the majority of the time. When the lessons include mathematical and graphical content, I believe direct instruction is an effective method as long as the teachers can illustrate the concepts in a clear and step-by-step manner. All of the teachers managed to present the contents clearly. Aside from direct teaching, all of them asked students questions from time to time throughout the lessons in order to assess their understanding. When students could not answer their questions correctly, they provided guidance. In addition, Teacher A assigned an in-class quiz after he finished teaching graphs depicting profit maximisation, and Teacher C gave a pre-lesson quiz to his students to assess their understanding of the lesson's prerequisite knowledge. Integrating assessment into the learning and teaching process can assist teachers in monitoring the teaching pace to meet the diverse learning needs of their students (I will discuss the benefits of this practice further in Part 6.7 c (iv) of this Chapter). In terms of groupwork, only Teacher B used Zoom's "break-out room" function to organise students into groups for discussion and presentation. As a result, my analysis of groupwork in the following parts of this Chapter will be based on my observation in Teacher B's lesson.

6.7 Findings

a. Types of learner diversity

Similar to the students, I observed their differences from their responses to teachers' questions. Teachers A and C assigned quizzes to students and all three teachers asked

students questions frequently throughout the whole instruction process. Concerning their performance with either the written or spoken responses, some students could answer very quickly, while some provided wrong answers and needed teachers' further hints or guidance to get the correct answers. Their responses to teachers' questions reflect their differences in prior knowledge concerning the discipline knowledge, structural knowledge, logico-mathematics and linguistics as well as graphical skills.

(i) Prior knowledge-subject specific

Teacher A assigned a pre-lesson quiz to students to check their prior knowledge of what was to be taught in the lesson. Some of them got all the answers correct, but some failed the quiz. In Teacher B's lesson, before introducing a new concept, she asked her students to recall related knowledge covered in previous lessons. For example, before introducing a new concept on economic development, she asked her students to name and explain the economic performance indicators that they have acquired at the beginning of S.5; however, students could only provide "Gross Domestic Product" (GDP) which is the basic indicator but forgot "per-capita GDP" and "unemployment rate" which are more accurate indicators. Their insufficient subject-related prior knowledge may result from the lack of revision habits, or they may not have understood the topic thoroughly when they learnt it in class in previous lessons.

(ii) Prior knowledge- structural knowledge

Apart from the subject-specific prior knowledge, I discovered in Teacher B's lesson that students also have different prior structural knowledge, which refers to their understanding of the elemental concepts and their relationships in a specific content domain. Jonassen & Grabowski (1993) found that students with high levels of structural knowledge will have enhanced problem-solving skills and transfer of learning, and will be more effective at acquiring learning strategies such as evaluating current information, analysing key ideas, predicting outcomes, inferring causes, and explaining implications, all of which are essential in economics learning.

(iii) Mathematical and graphical ability

The topic of Teacher C's lesson was "Price elasticity of demand" which involves some basic mathematical calculations covered in the junior mathematics curriculum. From

students' answers in Teacher C's in-class quiz, I noticed that some students' mathematical sense is relatively low as they could not produce proper calculations in answering the questions.

Apart from mathematics formulae, graphical presentation is a common tool to present concepts in economics. The topic of Teacher C's lesson required students to have graphical skills in presenting their understanding. I observed that only some students were able to draw correct diagrams to illustrate their understanding of the concepts, while some could not even draw a proper diagram. According to my previous teaching experience and the sharing of teachers in my current work, this difference in the mastery of graphical presentation is common in a class comprising students who are more science oriented, and those who are more arts oriented. Students who are good at science subjects tend to have mathematical and graphical ability than those who are good at arts subjects. I do not make any judgment of students' academic ability based on their subject orientation, and I am aware that this comment is subjective. It is, however, a common observation that is worthy of possible exploration through further research.

Mathematical and graphical skills belong to one of the multiple intelligences put forward by Gardner (1983) and also can be regarded as prior structural knowledge in economics. According to the teachers' interviews analysed in Chapter Five, this difference is crucial in affecting students' motivation and performance in economics as this subject involves a considerable amount of graphical presentation. This observation is in line with Jonassen & Grabowski's (1993) proposition that there is a relationship between motivation achievement and prior knowledge level. According to them, when students have a high level of prior knowledge, their need for instructional assistance decreases, vice versa. This is one of the reasons why Teacher A stipulated students' mathematics results in S.3 as a prerequisite for their studying economics in senior secondary.

(iv) English language ability

The other difference in students that I identified is their English language ability. English is the medium of instruction in Teacher A's school. Teacher A conducted the

lesson in English, and some students could answer his questions in English fluently. However, some students could not answer questions in English well and shifted to speak Cantonese instead. The differences in English ability may not significantly impact their performance in the economics public examination since most examination questions require them to write in short answers. This difference, however, could affect students' learning in class, for example, their understanding of the teacher and participation in class activities if they have to be conducted in English.

b. Grouping arrangements

Out of the three lessons, only Teacher B organised groupwork, hence the following findings and analysis focus on her lesson. Before discussing the findings, I will outline some observations from the groupwork below.

After covering the introductory part of the topic, "Economic development," Teacher B formed students into different groups according to their academic results as she explained to me that she does this in face-to-face teaching. Each group had to discuss and report back on a question on "What are the factors affecting the development of an economy?" When compared with a physical lesson, it is less feasible for the teachers to observe students' performance in groupwork in an online lesson. In a physical lesson, teachers can obtain a more holistic understanding of the performance of all the groups. If she wants to know how a particular group is working, she can join the group anytime and provide guidance when needed. However, it becomes harder for the teacher to monitor the groupwork when it is carried out online as the teacher cannot see all the students physically, particularly when some of them do not turn on their cameras. To learn more about how different groups were working, Teacher B visited each group to supervise the students and provide guidance to them when needed. I therefore could observe the discussion of each group together with Teacher B. After group discussion, Teacher B picked a member from each group, at random, to present their answers. To my surprise, all of them could provide sensible answers, and some of them could even elaborate on their answers in detail and suggest some valid factors which are not covered in the curriculum. From students' performance, I inferred that most students were engaged and exchanged ideas in the discussion and could learn from each other through the interactions.

Their performance arouses my interest in exploring the potential differences in students' learning in online group discussion and face-to-face group discussion. I recall my previous teaching experience and observations of class visits in my work; students tend to be interdependent in face-to-face groupwork. For example, when the teacher asks one group member to present the results of their group discussion, if that member struggles to accomplish this task, the other group members would immediately offer help by passing him/her a note with tips or answering. Their interdependence may be facilitated by the promotive and encouraging interactions in a face-to-face environment, and this reinforced relationship would positively impact their learning (Johnson and Johnson, 1999). Notwithstanding the positive impact on students' learning, students' interdependence may lead to a problem of free-riding that is when some students rely on their group members to complete the task without putting in any effort themselves. Students always complained about the free-riding problems to me when I was a teacher and I dealt with them by asking them to engage in peer evaluation based on each one's contribution.

However, in an online discussion environment, students' interdependence may be weakened as it is harder for them to connect with their group mates when they are struggling to report their discussion results on their own. The limitations of online discussion may, in turn, make them take more personal responsibility for their learning and hence they engage more in the discussion. This inference may explain the performance of most of Teacher B's students. I observed in their online group discussion that most of them, regardless of their ability levels, engaged in the discussion process and reported the results of their discussion very competently. Their behaviour is in line with the results of a recent study by Wong (2020), which explored the impact of online learning on students' learning needs. The study involved 118 students from Grade 6-9 in Hong Kong who had a two-month online learning experience during school closure due to COVID-19. The study employed a mixed-methodological approach, including a questionnaire and in-depth interviews. In her study, Wong found that online learning meets learners' needs of autonomy and competence. In other words, online learning can help develop learners' autonomy, which refers to a learner's desire to own her or his learning and their sense of competence, i.e., a learner's need to

consider her/himself as capable and to be able to perform effectively. Online learning, according to the students, can help them learn more broadly and more deeply, boosting their self-confidence and sense of competence in the classroom.

Suggested by social constructionism, interactions enhance students' learning and this is one of the advantages of arranging groupwork. With this concept in mind, I presume that students' learning through online group discussion may be less effective than through face-to-face discussion for the reason that the interactions in an online environment seem to be less authentic and limited. However, interestingly, students revealed in the interviews in Wong's study (2020) that their connectedness with others is not built only through face-to-face interactions but through different online platforms and social media nowadays. Hence online learning is not related to their need for relatedness i.e., their need to connect and interact with others. Wong's findings offer us insights into how to improve blended teaching modes of face-to-face and online by harnessing the respective benefits from each mode.

c. Elements that facilitate groupwork

I regard the online discussion in Teacher B's class a success in achieving the aim of exchanging ideas and co-constructing knowledge. The elements facilitating the group interactions are identified and analysed below.

(i) Group composition

The video recording of the lesson showed that Teacher B's students engaged actively in the group discussion. The interaction among students was keen, and most of the students pooled and exchanged their ideas relevant to the discussion topic. Observing their interactions, I believe students' learning differences were managed effectively. In the focus group, Teacher B's students opined that groupwork allows students who are embarrassed to talk in front of the whole class to share their ideas. In an online discussion, they may feel even "safer" to express their ideas and views when they do not need to face their classmates physically as it is not compulsory for them to switch on the camera. This is what I observed in the discussion when some less able students were bold enough to share their ideas. Their sharing might have only recalled what the teacher taught in the lesson before the discussion and was relatively brief, but,

nonetheless, it was encouraging to see them participating in the groupwork.

On the other hand, some students performed the role of a facilitator in some of the groups in the recorded lesson of Teacher B. They led the discussion and provided more advanced answers, which required their synthesising of the concepts acquired in previous lessons. Though they may not intentionally lead the group discussion, they could manage to facilitate the interactions among their group mates. I assume that these “leaders” are students who are more academically able. From this experience, it is seen that mixed-ability grouping can help cater for learner diversity.

(ii) Group atmosphere

Though it is not easy to feel the atmosphere of the discussion in online learning, I observed that most students in each group were keen on sharing. I believe that they were encouraged by Teacher B’s timely supporting words and guidance when they faced problems during the discussion. As Robinson et al., (2017) comment, an instructor’s presence in an asynchronous online learning environment delivers a human component to the online classroom, which is essential to help students engage in online collaborative tasks. I believe the harmonious and supportive atmosphere in Teacher B’s lesson has been cultivated over time, rather than only being demonstrated in this lesson. Hence, I am convinced that teachers’ creation of an encouraging, positive, and safe learning atmosphere, through grouping students appropriately, can definitely promote students’ self-confidence and raise their learning motivation (趙志成 & 何碧愉, 2009).

(iii) Providing scaffolding before group discussion

The discussion topic assigned by Teacher B was open-ended without standard model answers. As discussed in Chapter Five and Part A of this Chapter, appropriate tasks are an essential element that help facilitate group interaction. Moreover, before the group discussion, Teacher B went through the requirements of the tasks and the concepts in relation to the topic with the students in order to create a foundation upon which to build knowledge. Being aware of learners’ differences in prior knowledge, it is necessary for the teacher to scaffold the collaborative learning activities with some kind of facilitating strategies in order to make the activities effective. Provision of scaffolding before the discussion helps facilitate students’ interactions and

collaboration in the online learning environment (Robinson et al., 2017). I believe providing students with appropriate scaffolding is of equal importance in online discussion and face-to-face discussion as students with diverse ability levels may have different degrees of participation in the group discussion.

(vi) Assessment and timely feedback

The teachers' main instructional approaches in these online lessons are direct instruction, questions, and answers, pre-lesson quizzes, in-class quiz, and groupwork. From the perspective of catering for learner diversity, the approaches of "questions and answers", "pre-lesson quiz", "in-class quiz" can serve the purpose of identifying differences in students' learning.

As discussed in earlier sections, asking students questions during the lesson serves as a kind of evaluation, and this can help the students and the teachers identify gaps in students' knowledge and understanding. Giving students timely feedback based on their responses can enhance their learning before they accumulate misunderstanding for the final assessment. In addition, question type is an important indicator revealing what learning gap the students have. I categorised three main types of questions the teachers asked in the three online lessons. They were recalling, explaining, and elaborating with examples. Before introducing a new concept, the teachers asked students to recall relevant prior knowledge they have acquired in previous lessons. After teaching a new concept, they selected students to explain what they have just learnt. When the students' answers were short, Teacher B asked them to elaborate their answers in detail and to provide supporting examples.

It is helpful to ask students to explain their learning or elaborate on the details of their learning in the lesson, particularly in an online lesson in which teachers could not check students' understanding quickly through their facial expressions. For example, Teacher C taught the topic "price elasticity of demand", which is regarded as a difficult topic for students as it involves abstract concepts and diagrams; this is even harder to teach online. In face-to-face lessons, teachers usually teach these concepts step by step and draw many diagrams to illustrate the core concepts; however, according to the teachers, it is not easy for them to teach diagrams through online teaching. Given such difficulties,

Teacher C provided many real-life examples when introducing the concepts to make them less abstract, and he asked students to do classwork on the Google classroom. By doing so, Teacher C could identify which students could not grasp the concepts immediately. In addition, he asked some students to explain their answers to check whether they had really mastered the concepts even though they had answered correctly.

Teacher A assigned a pre-lesson quiz to his students so that he could identify which areas his students have already acquired and which contents his students have not yet mastered. With this information, he could adjust his teaching plan by spending more time on the areas that students find difficult. Also, at the same time, he could identify the learning differences of his students on this topic.

Teachers need to understand the learning needs of their students in order to cater for them. Different assessment methods provide different information about students' learning for teachers. With this information, teachers can develop appropriate ways to assist students to learn. The format of the high-stakes public examination in Hong Kong, however, overwhelmingly dominates the mode of internal assessments in economics. "Pen and paper" assessment is still the main method adopted by economics teachers. Most teachers and students feel "safe" with this method which is perceived as the most suitable way for preparing for the public examination.

6.8. Summary of Part B

Due to school suspension, no face-to-face lesson observations could be arranged and therefore I collected the data from teachers' online lessons. Owing to the limitation of observing students' facial and other behaviours, I could only identify their differences from their responses to teachers' questions and their performances in the pre-lesson quiz and in-class quiz and group discussion. I observed that students differ in their ability and prior knowledge, including subject-specific knowledge and structural knowledge, mathematical, graphical, and English language ability.

With respect to grouping arrangement, only Teacher B arranged online group discussion. Overall, most students participated actively in the group and could present detailed, quality answers. Based on my observations, I concluded that mixed-ability

grouping, providing scaffolding before the discussion, and a supportive environment can positively facilitate the group interaction and cater for students' different learning needs.

In addition to using appropriate strategies in catering for learner diversity, it is important for teachers to learn about the differences between students in the first place. All teachers adopted various methods of assessment by asking questions regularly, assigning a pre-lesson quiz and an in-class quiz to help them identify the gaps in students' knowledge and understanding and subsequently to adjust their teaching accordingly. Moreover, I observed that they gave timely feedback such as hints, supporting words and guidance to students.

6.9 Summary of Chapter Six

In the online lessons, the main differences that I observed between the students that contrasted with those that they identified in the focus groups, were prior knowledge and English ability (in Teacher A's lesson). These elements affected the observable differences in their learning pace and academic performance in assessments. They may also affect their academic performance, which may, in turn, affect their learning motivation and finally impact on their academic results. The intricate relationship between learners' differences and their performance may not be easily addressed with a single strategy. Managing groupwork is a way to cater for learners' diversity; however, due attention has to be paid to the elements that facilitate and impede the interactions of students in the group which directly impact on their learning. Elements impacting the effectiveness of groupwork, according to student focus groups and my lesson observations, are group composition, tasks assigned to group, students' behaviours in group, class atmosphere, and teachers' support. Among these elements, students' behaviours in groups, and class atmosphere, to a certain extent, are congruent with the influences of CHC. In addition to managing groupwork to cater effectively for learner diversity, it is of paramount importance to identify the differences in students through various assessment methods.

Based on the findings discussed in this Chapter, the conceptual framework is further revised as below. In the diagram, the inter-relationships between learners' differences

and academic performance are connected with two arrows and the importance of identifying students' differences through assessments is added before arranging groupwork. In other words, teachers' awareness of all of these differences is crucial in ensuring that groupwork is effective in the teaching of economics in secondary classrooms in Hong Kong.

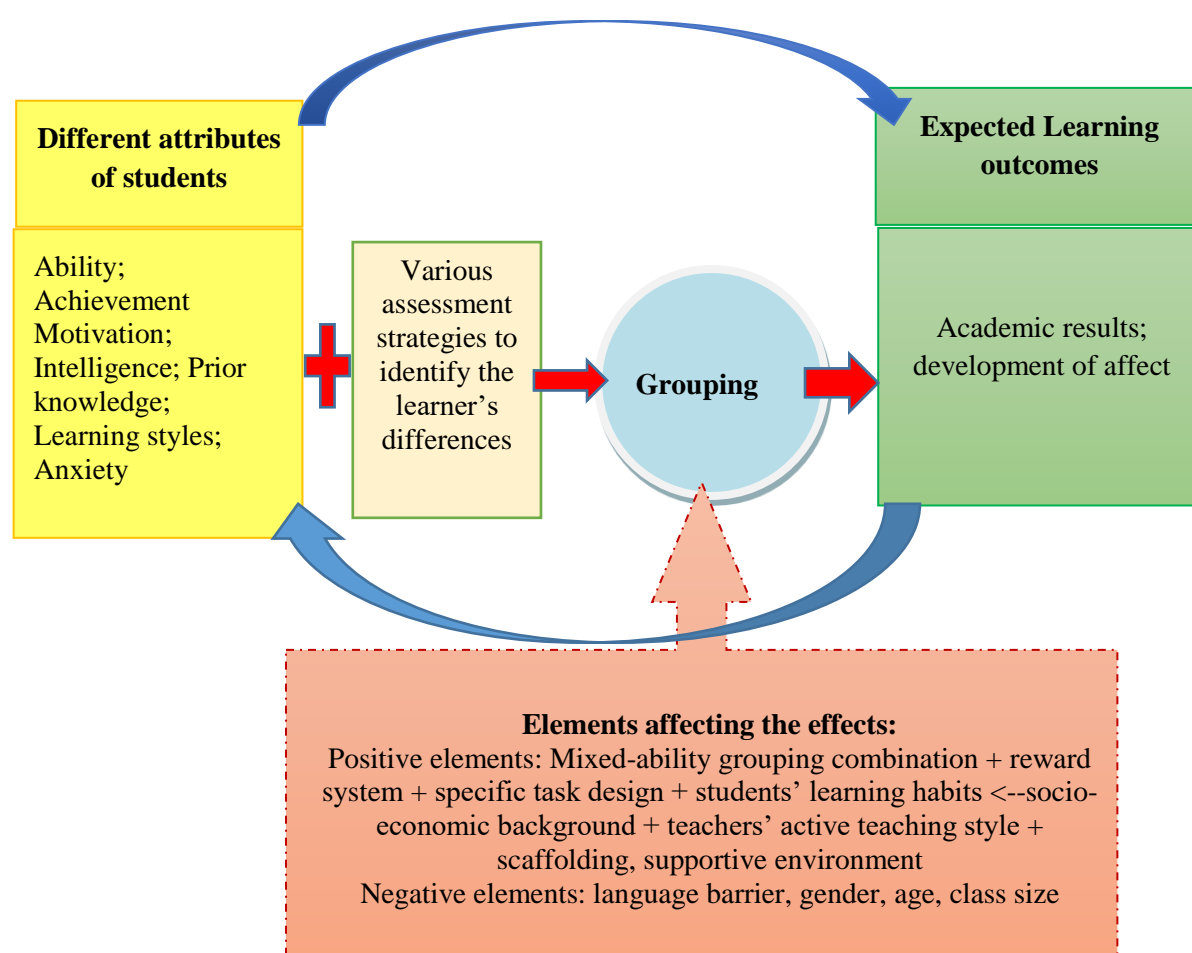


Figure 5. Revised conceptual framework of catering for learner diversity through groupwork in class with reference to the findings from students' focus groups and lesson observations

6.10 Remarks on the data analysis

The framework above summarises the main findings derived from my data collection process, which included teacher interviews, student focus groups, and online lesson observations. It demonstrates how the concepts in my study including learners' diverse attributes, elements influencing groupwork, and expected learning outcome, are

interconnected. In Chapter 7, I will triangulate and synthesise all the data collected to present an overall analysis of the findings in response to each research question.

Chapter 7

Summary and Discussion of Findings and Conclusion

7.1 Introduction

In this final chapter, I will first review the rationale for my study and present the insights gained from the main findings of the study. After that, I will discuss the strengths and limitations of the methodological approach. Then I will provide my recommendations for secondary economics education in Hong Kong and talk about the strengths and limitations of the study. Finally, my dissertation will be concluded with my suggestions of future research areas and personal reflection on the research journey.

7.2 Review of the rationale for the study

Economics was introduced as an elective subject in senior secondary in Hong Kong in the 1970s, with the primary pedagogical approach determined by a content-driven, high-stake public examination. As a result, behaviourist pedagogy with direct instruction by “chalk and talk” was dominating in economics education as many economics teachers paid attention mainly on covering the subject matter rather than developing students’ analytical skills. Recognising that “many students...tend[ed] to adopt a passive and surface approach, such as memorisation, to their learning” (Curriculum Development Council (CDC) & Hong Kong Examinations and Assessment Authority (HKEAA), 2007, p.35), in 2001 the Education Bureau initiated a curriculum reform in all senior secondary subjects to promote a more student-centred, constructivist approach which emphasises that “[t]hrough discussion and collaboration in group tasks, each individual’s knowledge can be constructed and their perspective widened” (CDC & HKEAA, 2007, p.44) and is reinforced through the professional development training for teachers and regular mandatory external school reviews, which involve class observations.

As a curriculum development officer for the EDB, I need to conduct regular school visits comprising meeting the economics teachers and observing lessons. During those school visits, many economics teachers reflected that they found an increase in learner diversity in economics classes after the change of the academic structure under the Education Reform. In response to such changes and the promotion of learner-

centredness by the EDB, many economics teachers employ groupwork in their teaching.

Notwithstanding a considerable amount of research on the effect of employing groupwork on student learning in western contexts such as the UK and USA (Blatchford et al., 2003; Lou et al., 1996) and its popular use in Hong Kong, there is a paucity of research on its effects on catering for learner diversity in economics in the local context. In light of this knowledge gap, I conducted a study to identify elements that affect grouping on catering for learner diversity with the view to informing and improving (Punch & Oancea, 2014) my work with respect to developing the economics curriculum and providing professional training for economics teachers to support the implementation of the curriculum in secondary schools.

7.2.1 Literature Review

My preliminary understanding of learner diversity and grouping arrangement was based on my experience of school visits, which was somewhat superficial. To gain a deeper and broader understanding concerning learner diversity and the philosophical principles underlying the arrangement of grouping, I reviewed literature related to types of learner differences including intelligence, achievement motivations, prior knowledge, also, constructivism and social constructionism, the respective philosophical principle of knowledge construction and groupwork promoted by the EDB, as well as the elements affecting the effects of groupwork. Of all the elements reviewed in the literature, I was most interested in exploring the effects of cultural elements, specifically the Confucian Heritage Culture, on using groupwork with students in Hong Kong.

With reference to the studies reviewed, I formulated a framework (Figure 2 in Chapter Three) showing the relationship between learner diversity, teachers' adoption of groupwork, elements affecting the effects of groupwork, and the expected learning outcomes set out in the official curriculum documents. Based on the framework, I designed three research questions addressing the aim of this study. In order to collect more in-depth insights into the situations in economics classes, I employed a qualitative case study approach to examine how teachers and their students perceive learner diversity in their classes and how the teachers cater for such differences using groupwork. I focused on three economics classes in the study.

7.2.2 Data collection

Before conducting interviews with the participant teachers, I carried out a pilot interview with a secondary school economics teacher in April 2020 to check the clarity of the interview questions. According to my original plan, I would have first conducted teacher interviews, then lesson observations, and the students' focus group interviews in early 2020. However, due to the outbreak of COVID-19 in the same period in Hong Kong, all schools were closed, and only online lessons could be offered until September 2020. Rather than delay my data collection, therefore, I decided to conduct all the data collection online. To match with the schedule of the teachers and students during their summer holidays, I conducted students' focus group interviews before the lesson observations, rather than after, as was my original plan.

7.2.3 Research questions

This part will summarise my findings with respect to the research questions stipulated in Chapter Four. Overall, the findings of this study can answer the research questions and enrich the framework established from the literature review in Chapter Three.

Research Question 1

➤ *How do economics teachers and students perceive learner diversity in economics?*

This question was formulated in order to gain a clear picture of the types of learner diversity found in economics students. It was answered mainly through teacher interviews and student focus-groups. My findings from the lesson observations are also incorporated in the data analysis.

The participant teachers reflected that there has been an increase in learner diversity in economics since the Education Reform. The elective subject selection mechanism in their schools may also lead to a situation whereby students who have relatively poor academic results in S.3 tend to take humanities subjects such as economics. In line with previous studies on types of learner diversity, the significant student differences identified by the three teachers are students' ability to understand economic concepts, which are reflected in their academic results. Similarly, students expressed in the focus groups that academic results indicate the differences between them. In addition to this difference, the teachers and students noticed that students behaved differently in class,

for example, the ways in which they responded to teachers' questions and the degree of need for teachers' guidance in answering questions. Students also indicated that some of their classmates asked them questions to clarify their understanding after school. This led them to infer that these classmates may not be able to keep up with teachers' teaching in the lessons.

Besides the apparent difference in academic ability, teachers also suggested that the achievement motivation among their students is different. Students with higher motivation would tend to work harder, taking more initiative and responsibility in their learning, while those with lower motivation would incline to withdraw from class activities and be passive in their learning in school. Teachers found that students' motivation significantly affects their academic results, and their academic results would, in turn, affect their motivation. This leads to a vicious cycle in students' learning.

Moreover, from students' performance in the pre-class and in-class assessments during the online lessons, I observed that students differ in their ability and prior knowledge, particularly in relation to mathematical, logical and analytical thinking skills, as well as their graphical presentation sense. In Teacher A's school, in which English was the medium of instruction, students' English ability is a noticeable difference affecting their understanding of teaching in class.

To summarise, students' main differences affecting their study of economics are their prior knowledge in relation to logical thinking skills, mathematical skills, English language ability, and graphical presentation skills. Among these skills, teachers regarded the first two differences as more essential in the study of economics. Though the economics public examination does not require students to have sophisticated English ability, it is still important for their learning, particularly when they study economics in English. Their language ability affects their understanding of teachers' teaching and questions in the lessons and in the assessments. Importantly, in addition to the effect on students' learning of economics, the lack of mastery of these skills affects their learning motivation. It is essential, therefore, for teachers to be aware of developing students' necessary skills related to the study of economics and motivating students' learning interests which are prerequisites for the success of learning

economics.

Research Questions 2 and 3

- *To what extent do teachers arrange groupwork in Hong Kong economics classes?*
- *How do teachers and students evaluate the effects of groupwork on catering for learner diversity?*

To address the objective of the study, I established two research questions to explore how much groupwork is adopted and how teachers and students perceive its effectiveness in catering for learner diversity.

Of the three teachers, only one uses groupwork regularly in her economics class to deal with learner diversity. One teacher occasionally uses groupwork, and the remaining one does not use it in his present school. From their sharing in the interviews, I gathered their views on the ways in which groupwork affect students' learning. In addition, students' views about grouping in economics lessons are also insightful for me to understand the essential elements that can help their learning.

Most of the elements that facilitate groupwork in catering for learner diversity found in this study align with the findings of previous studies discussed in Chapter Three. They are group composition, particularly mixed-ability grouping, specific tasks designed for groupwork, and teachers' teaching styles. For group composition, all the participant teachers agreed that mixed-ability grouping helps cater for learner diversity and they group students with different ability levels based on their academic results, with the belief that students of lower ability can learn from their classmates with higher ability through interactions. Their belief behind the group composition is in line with the constructivist perspective on learning i.e., that learners' learning capacity can be extended if they interact and work collaboratively with more able ones. According to Teacher B, students' bonding can also be enhanced through regular grouping. A closer relationship with classmates is especially important to the less able students as they can gain more confidence in speaking up in class and participating in class activities. Hopefully, their learning motivation can be enhanced and, in turn, bring an improvement in their academic performance. Students in focus groups echoed the affective benefits brought about by regular groupwork. They prefer to ask questions in

groups instead of in front of the whole class. It is because some of them are afraid of interrupting teachers, and some of them are too shy to ask in front of the class. Their behaviour in class is not uncommon in the Hong Kong education context, which is influenced by the CHC under which students regard teachers as authority figures and need to keep a distance from them (Park et al., 2012). The students reflected that they found it easier to understand their classmates' explanations of their queries as young people share similar "peer language." According to social constructionists, language is an essential means of co-constructing knowledge through interactions. Language can be shaped by culture or subculture (Raskin, 2002); the "peer language" referred to by the students in this study can be regarded as a kind of subculture among the students.

The other critical element facilitating students' learning through grouping is the design of group tasks. In most groupwork carried out in class, Teachers B and C assigned students open-ended questions, requiring them to think and share views from different perspectives. Through the discussion process, students could co-construct knowledge from the ideas contributed by their group members. The students in the focus groups agreed that it is helpful to discuss this type of question in groups to gain broader perspectives from their classmates.

Teachers' styles are also crucial in making grouping arrangements effective. Teacher B strives to create an interactive and supportive learning atmosphere in her class. She often interacts with her students through questioning and answering and arranges groupwork for students in every lesson. Most importantly, she encourages her students to participate in class activities with guidance and encouraging words. Furthermore, to promote students' participation in groupwork, she adopts a reward system under which every student has to take his or her responsibility to contribute to the groupwork. In such an environment, Teacher B claimed that her students have become more eager to express views and exchange their ideas in class. In the class observation, I noticed that her students were responsive and engaging in group discussion and class presentation even though the lesson was conducted online.

The elements of group composition, design of group tasks, and teachers' style outlined above are reflected in previous studies discussed in Chapter Three. Some elements found in this study are, however, unique to the Hong Kong education context. For example, students' learning habits concerning their preference for learning

independently or in groups determine their participation in groupwork. Hofstede (2001)'s discussion on individualism and collectivism suggests that learners in CHC are more collectivistic and inclined to learn in groups. However, according to Teacher A's experiences in two different schools, this learning habit may be affected by students' family background. Students coming from families of relatively higher social-economic status may think learning is an individual business, and whenever they need academic support, they can seek help from their private tutors. At the same time, they are less willing to share their learning with others. Students without much family support may prefer to learn with their classmates and hence are more willing to participate in groupwork. Students' familiarity with learning in groups is also essential in helping them to be ready to collaborate with others in groups. This claim is also reflected in Teacher B's class, where her students were accustomed to working in groups since they had studied at junior secondary.

Two other interesting elements suggested by the teachers are gender and age, which were not evident in the literature reviewed in Chapter Three. Teacher A is now teaching in a boys' school, and he found that compared to girls, boys tend to be less willing to share in groups. In the student focus groups, Teacher A's students commented that they found it meaningless to discuss questions in economics which require only standard model answers. They would be more willing to participate in groupwork if the tasks are more open-ended and look for multiple perspectives from them. Their view concerning groupwork in economics reflects that their underlying conception of learning is indeed affected by CHC to a certain extent. As discussed in Chapter Two, in Chinese, the term "knowledge" comprises two characters. One is "Xue" (to learn), and the other is "Wen" (to ask) (Liu & Littlewood, 1997; Cheng, 2000). Questioning and enquiring is central to the quest for knowledge to the Chinese learners. In light of this, I can infer that the boys expect that the group tasks can provoke their thinking, wider their perspectives, and deepen their learning. Their comments revealed that they are reflective learners as suggested by Cortazzi and Jin (2001) "Chinese students are not passive but reflective...Chinese students' value thoughtful questions which they ask after sound reflection..." (p.191). Also, from their sharing we can see that their learning strategy responding to the requirements of the public examination show their examination orientedness, which is also a characteristic of CHC learners.

Furthermore, some students of Teacher B and C reflected that they feel embarrassed about speaking up and asking questions in class. Their behaviour is in line with another characteristic of CHC learners reviewed in Chapter Two, i.e., the stress of maintaining “face” in public. Students consider poor performance as losing face and therefore decline to verbalise their views for fear of being incorrect leading to humiliation (Chan, 1999). Therefore, to those students, groupwork can give them opportunities to ask questions and share in a small group learning environment. Moreover, the maintaining “face” concept may become stronger when the students become older. Both Teacher B and C opined that senior students are less willing to share and participate in class activities than the junior form students.

Fluency in speaking Cantonese is another element identified by Teacher C in his groups consisting of local students and students from Mainland China. Mainland students who cannot speak fluent Cantonese dare not join group discussions for fear of being laughed at by local students. This phenomenon is local to the Hong Kong context, where a considerable number of students have come from the Mainland over the last two decades. The issue of fluency in Cantonese was intensified during the social and political unrest happened in 2019. During that period, the sense of “localism” among its advocates was very strong, and many young people, including secondary school students were influenced. Students from the Mainland particularly those who could not speak fluent Cantonese were afraid of being discriminated against by local students. Therefore, they dared not speak up in class and even in groups. Nevertheless, I believe this situation will improve gradually when, hopefully, the political situation improves with time.

Moreover, classroom size is another teacher’s concern for the feasibility of arranging grouping in class, especially when some economics classes consist of 30 to 40 students. In addition, the teachers reflected that it is a struggle for them to arrange groupwork during lessons given a tight teaching schedule to cover all of the curriculum content.

By answering the research questions, I can enrich my conceptual framework established from my review of the previous studies on learner diversity and groupwork on students’ learning (see Figure 5 below). It can be seen that the learner differences identified in this study are shared with those found in previous studies, while, due to the historical

background of Hong Kong, students' difference in English language ability can affect their learning performance in economics. Concerning the elements impacting groupwork, apart from those reviewed in previous literature including, group composition, and task design, some findings in this study are specific to the Hong Kong context, such as students' familiarity with groupwork, communication styles, gender, age, and class size. By examining these elements in detail, I find that some of them are interrelated. For example, students' familiarity is affected by teachers' groupwork practices and teachers' teaching styles. In addition, the underlying reason for boys' responses to groupwork is their concern that the task is related to the public examination requirements. Moreover, the emphasis on students' academic differences reflects the influence of CHC on teachers and students who value the public examination results which they presume a critical indicator of students' future path. It is noteworthy that without addressing students' differences fully and appropriately, their academic results would be adversely affected, which will negatively affect students' motivation and even their whole-person development. Nevertheless, the negative influence of CHC on groupwork discussed in Chapter Two is not significant in this study. On the contrary, groupwork can help students who regard teachers as authority figures or are afraid of losing face in public to learn better through their "freer" interactions with their classmates in group. In conclusion, the overemphasis of academic results in CHC exerts great impact on the learning and teaching of economics in Hong Kong. This study calls for a change in the public assessment to bring backwash effects to the local economics education.

The above findings are very relevant to my work as a curriculum development officer. I need to prepare curriculum documents to guide the implementation of the economics curriculum in secondary schools in Hong Kong and provide training programmes for teachers in implementing the Curriculum. The implications of the above findings will be discussed in Part IV in this Chapter.

(Reproduce Figure 5. Revised conceptual framework of catering for learner diversity through groupwork in class with reference to the findings from students' focus groups and lesson observations)

7.3 Strengths and limitations of the methodological approach

The literature review provided me with insight that the impact of groupwork on students' learning is subjective and differs from case to case. This insight aligns with my ontological perspective that reality is subjective and varies from person to person (Guba & Lincoln, 1994). Epistemologically, I also believe that the knowledge of the social world is constructed through interactions between different individuals. Based on these beliefs, I used a qualitative research methodology in the form of case studies. Through interviews with teachers, I explored their perspectives concerning their students' differences and their rationales and considerations for arranging groupwork to address the differences. By conducting focus groups with students, I examined their detailed views based on their groupwork experiences in economics classes. Moreover, through class observations, I identified students' learning differences from their performance

and the elements affecting groupwork from the interactions among teachers and students, and students and students in the lesson.

In spite of the strengths of adopting a qualitative case study methodology, there are some limitations of this approach as I discussed in Chapter Four. For example, some critics of case studies are concerned with the “subjective” conclusions of the researchers, which may be based on a lack of sufficiently operational set of measures for data collection (Yin, 2009). To address this, I collected data from multiple sources, including interviews from teachers and students and class observations, to establish a chain of evidence for my findings. Moreover, I invited the participant teachers to review the draft report of the findings to develop a richer and more credible report (Rowley, 2002). Furthermore, to enhance the credibility and rigour of my findings, I was reflexive throughout the entire process of my research by incorporating my perspectives in the design of this study and interpretation and analysis of the data collected (Patnaik, 2013, Darawsheh, 2014).

Another limitation of the qualitative case study approach can be considered to be its weak generalisability, which is related to the study’s external validity. This study’s main objective was not to generalise the findings but rather provide insights into my work for curriculum development and the provision of teachers’ professional training and, possibly, to enable readers to consider the relevance of my research to their own situation and context. Furthermore, one of the major strengths of my study is that I identified some unique elements affecting groupwork that were not present in the literature I reviewed.

One may also be concerned about the representativeness of the findings of this study due to the selection of information. However, we cannot rule out the relevance of a finding simply because it happened once; often, a single incident might occur, which provides rich insight into a person or situation. For example, the elements of gender and age raised by teachers provide me with rich insights into economics learning in the Hong Kong context. In spite of their limited representativeness, case studies do not look for frequencies of occurrences but rather the significance of the behaviour, which is a hallmark, providing the researcher with an insight into the dynamics of situations and people (Cohen, 2017). The findings collected from this study could, therefore, be

widely transferable to similar schools in Hong Kong.

7.4 Recommendations for the future development of economics teaching

The findings of this study remind us of the importance of addressing students' diversity and imply that there need to be changes in the teaching, learning, and assessment in economics. In the following section, I will offer suggestions to the implementation of the economics curriculum in order to ensure inclusivity.

a. Nurturing students' holistic development

The common learner difference teachers and students identified in this study is in students' academic results, which, according to the teachers, mainly results from students' differences in ability and prior knowledge. To a certain extent, this finding reflected that they are very concerned with academic performance. The emphasis on students' academic performance has long been a common phenomenon in Hong Kong education, which is deeply influenced by CHC, resulting in an examination-oriented culture as people believe good examination results lead to a good career path (Lam et al., 2002). Driven by this belief, the backwash effect of the public examination has impacted enormously on the learning and teaching paradigm in economics even though the curriculum reform advocates heavily for learner-centredness.

This study reveals that economics students are not only different in their ability but also their motivation and learning styles. In response to their diverse needs, it is necessary for teachers to shift their focus from students' academic ability to students' holistic development including affective development. Despite the over-attention on the student's academic performance, the teachers in this study understood that the differences in motivation and learning styles affect students' learning, and in response, they tried ways to address these differences. Teacher B arranges mixed-ability grouping to provide opportunities for more able students to help the less able ones with the view of building up the confidence of the two groups of students and enhancing their learning. By doing this, students can also develop holistically. According to her students in the focus group, they were not aware that their teacher arranges them in groups based on their different abilities, but thought that Teacher B allocated the groups randomly. Students' ignorance of the group composition tells us that students do not want to be labelled according to their ability level. They appreciate being placed on an equal

footing, and they would be more willing to contribute to the groups when this occurs. In this study, I find that mixed-ability grouping is recommendable for addressing students' differences, teachers should pay attention to the labelling effects on students. Being treated equally is important to students' self-esteem, particularly the less able students. When feeling respected, they would be less embarrassed to engage in group activities, and their self-confidence can be strengthened; eventually, their learning can be reinforced. Moreover, as discussed in Chapter Five, Teacher A raised the concern that stereotyping would make students of lower ability become apathetic about learning, and this learning attitude leads to a vicious cycle in their academic performance. In this connection, teachers should be aware of creating labelling effects in their interactions with students and students' activities. In terms of groupwork, they may consider changing the group composition regularly so that students could gain more interactive experience with different classmates, and at the same time, they would not get an impression that they are placed in a group according to their ability level. It is easier for them to discover that this is the reason for the arrangement of the groups when they stay in the same group for a long time.

b. Tailoring the Curriculum

Teachers reflected that, although they agreed that working in groups helps to cater for learners' diversity, they found it hard to spare time to arrange group activities because of their tight teaching schedule to cover all the content of the economics curriculum. According to my understanding of the economics teachers in Hong Kong, most of them are very responsible, and they regard covering all of the curriculum contents as the minimum work they need to do to help students to prepare for the public examination. Apart from the content, they spend a lot of time drilling students on how to tackle past examination questions during school time and even in supplementary lessons. Given the limited teaching time and students' different learning needs, it is necessary for teachers to tailor the curriculum content carefully, for example, by leaving some basic factual contents and past examination questions for students to study by themselves at home. It is more helpful for students if teachers spend valuable lesson time teaching abstract concepts and essential thinking skills, such as applying economic concepts to analyse real-life economic issues and answering students' questions to clarify their misunderstanding. In fact, compared with other international economics curricula such

as International Baccalaureate (IB) and Advanced Placement (AP), the economics curriculum in Hong Kong is relatively less demanding in terms of the depth and breadth of the content. Also, students taking the IB courses are required to complete a portfolio consisting of three commentaries as an internal assessment accounting for 20 percent of the total marks of the public examination. Against such a background, the claim of insufficient lesson time is a matter of how to arrange the lesson time efficiently and effectively. Tailoring the curriculum content and utilising the lesson time more effectively can help teachers address the students' different learning needs.

c. Adopting a wide range of strategies

In this study, though academic ability is the major students' difference identified by the teachers, they acknowledged that students differ in other aspects such as learning styles and language ability. In light of these differences, we should regard the concept of catering for learner diversity as helping each student to stretch their potential instead of narrowing the academic gap between them. To achieve this learning outcome, teachers should devise a wide range of responsive strategies as far as possible, for example, organising experiential learning activities such as field-work to help students who are relatively bodily-kinesthetic to connect abstract economic concepts with real world phenomena. By doing this, students with different abilities and learning styles can learn more effectively from their strengths, and also, they can be motivated with a higher interest in the subject (趙志成 & 何碧愉, 2009). I believe teachers would agree that students with higher achievement motivation would learn better academically.

d. Better use of formative assessment

The emphasis on the academic results reflected in this study revealed the tremendous backwash effects of the high-stakes public examination on the learning and teaching of economics in Hong Kong. This is a common phenomenon observed in contexts influenced by CHC which regards public examination results as an important milestone for learners' future (Lam et al., 2002). According to students in the focus groups, the questions in the economics public examinations look for standard model answers, and this type of question does not have much room for discussion. Having such a perception of the public examination, teachers and students tend to believe that in order to obtain good results, students have to be drilled in past examination questions in order to be

familiar with the examination format. I agree about the benefits of equipping students with necessary examination techniques; however, I am inclined to believe that students benefit more from practicing, analysing and applying economics concepts to authentic situations. What I suggest here is to devise different internal assessment methods as far as possible. For example, during S.4 and beginning of S.5, there is still sufficient time for the students to become familiar with the public examination formats before the public examination. This can be achieved by providing students with various internal assessment formats, such as group discussion and presentation on a particular economic issue and writing news commentaries. Giving students choices to exhibit their learning outcomes can sustain their learning motivation. In this way, devising different internal assessment methods not only can cater for students' diverse learning styles but also can arouse their interest and motivation for learning.

Moreover, through various forms of assessments, teachers can obtain observable evidence of students' competency and identify their learning gap, which may be caused by misunderstanding, misconception, and slips (i.e., that they miss out on something but that does not mean that they do not understand), etc. The teachers can then inferentially connect the evidence to meaningful characterisations of individual students or groups, and act on those characterisations including feedback, making instructional adjustments and plans (Bennett, 2019).

A fundamental principle in economics tells us that people's behaviours would change when the incentive they face changes. Following this logic, I think the most efficient way to encourage teachers and students to change their paradigm concerning the learning and teaching of economics is to change the incentives created by the high-stakes public examination. My suggestions on how to change the public examination will be discussed below.

e. Incorporating more open-ended and authentic questions in the public examination

It is not always easy for us to move away from a comfort zone. When drilling in past examination questions can help students score high marks in the public examination, it is hard for teachers and students to give up this learning mode. Given the enormous

backwash effect of the public examination on economics education in Hong Kong, it is essential to modify the assessment format of the public examination by incorporating more questions assessing students' analysis of real-life situations with broader open-ended answers. By doing so, teachers will have more incentive to introduce everyday cases for in-class discussion and students will be more willing to participate in group activities in order to gather broader perspectives from their classmates. In addition, students' economic sense could be enhanced by applying economic concepts to everyday cases happening in the community and the world. This is one of the core abilities in studying economics. This study's findings call for a change in the economics public examination to induce a potential change on the learning and teaching of the subject.

f. Overcoming constraints

One of the strengths of this study is that it has identified certain limitations in adopting groupwork in catering for learner diversity in Hong Kong economics classes. All teachers agreed that groupwork could help cater for learner diversity; however, some limitations weaken its effects and may even hinder the way they organise groups in class. Given this situation, it is worth exploring ways to overcome the difficulties they highlighted. For example, Teacher A said that, according to his experience, boys were unwilling to work in groups but preferred to learn independently. However, in the students' focus group, his students revealed an underlying reason mentioned above. Their comments open a window for us to understand more about their expectations of meaningful groupwork. In light of this, we may infer that gender may not be the main reason affecting students' engagement in groupwork, but rather the task designed for groupwork determines it. With this information, teachers need to design more challenging and open-ended tasks for boys to tackle in group. Another element affecting students' performance in group is their familiarity with this learning mode. Students who are not accustomed to working in groups may be reluctant to share their views and contribute to completing a group task together. It may, therefore, be useful to provide this kind of student with more guidelines or rules so that they know what they are expected to do in groups. Making the tasks more systematic can also help them to follow them more easily.

To summarise, this study reveals that certain constraints limit groupwork in Hong Kong economics classes, and some may be unavoidable. Nevertheless, when we realise the value of this learning mode in helping diverse groups of students to learn more effectively, we need to investigate the underlying reasons behind the limitations and try different means to overcome difficulties. During such an investigation, the voice of students is an important resource informing us how the lesson could be appropriately organised so that teachers and students can co-construct a learner-centred lesson.

7.5 Strengths and limitations of the study

7.5.1 Contributions to my work

Though I have regular contact with economics teachers through school visits and teacher training programmes in my work, it is not possible for me to collect information concerning learning and teaching in economics in depth. By conducting this study, I have been able to explore teachers' and students' perspectives as a researcher, instead of as a government officer. When my prior knowledge, experience, and beliefs developed as a teacher and government officer collided with the new knowledge generated by the findings of this study, I was able to conduct a thorough review and reflection on my understanding of this topic. I realised that I have benefitted considerably from the findings of this study as I have been able to identify how we can improve the teaching of economics so that it is more inclusive.

First of all, when designing a curriculum, we need to focus on 'real world' situations in lessons to fill the current gap between curriculum and implementation. In light of this, I need to have more direct contact with teachers through interviews and lesson observations in my work in future in order to obtain more frontline information about economics classes. Apart from teachers', students' perspectives are also essential and valuable in facilitating the curriculum implementation, particularly when learner-centredness is our concern. Therefore, I would try to arrange student focus groups in my work in order to listen to their opinions concerning the economics curriculum and assessment. After all, they are the main stakeholders in education, and hence their voice is particularly important in the curriculum development.

Part of my job is to review the economics curriculum and assessment from time to time.

Though learner diversity was already recognised as a concern in the government curriculum document (discussed in Chapter One), the types of student differences are not fully identified. In upholding the notion of learner-centredness in the official curriculum guide and teachers' training programmes, we must first have a thorough understanding of learners' diverse attributes in the economics learning and teaching situation. The current economics curriculum implemented in 2007 focuses mainly on students' mastery of economic knowledge and logical reasoning skills. Furthermore, the format of the questions in the public assessment has seen only minimal changes under the curriculum reform, and accuracy of answers is still the most critical parameter in differentiating students' ability. With the aim of making the curriculum more adaptive to students' learning needs, the findings of this study could support my suggestions to incorporate elements for arousing students' interest and development of their positive values and attitudes in this subject in the Committee responsible for the development and reviewing the curriculum. I will share my findings with the Committee members for their reference and consideration during the coming curriculum review exercise.

In terms of developing learning and teaching materials and providing teacher training programmes for facilitating the implementation of the curriculum in schools, the findings on how arranging groups leads to the acknowledgement of learner diversity, provide me with insights into how to equip teachers with the necessary attitudes and skills of addressing learner diversity through groupwork. In addition, this study reflects the importance of using various types of assessment to identify learners' differences. Therefore, I will reiterate the importance of assessment for learning and enhance teachers' assessment literacy in the training programmes in the future.

Through the interviews with teachers and lesson observations in this study, I found many good practices in helping students to learn from teachers. I believe that teachers' experiences are excellent assets in the development of this subject. It would be beneficial for all economics teachers if the government can organise a teacher professional learning community through which they can share experiences and good practices among themselves. This kind of community is particularly beneficial for new economics teachers as they may not have sufficient support from their schools, which

usually recruit only one or two economics teachers. The experience exchanged in the professional learning community can help teachers improve their teaching more efficiently when they see the feasibility and benefits of the changes carried out by other teachers. I believe that teachers are more willing to change when they see the practices of their peers rather than when they regard the change as a top-down government instruction.

7.5.2 Limitations of the present study

Though the findings of this study can shed light on the development of economics education in Hong Kong, there are certain limitations to it. First of all, the selection of the sample had to change due to the school suspension in Hong Kong. My original plan was to invite teachers to participate through the training programmes I organised, so that more teachers could be reached. However, due to the political events and COVID-19 pandemic in Hong Kong, schools were suspended for an extended period, and no teacher training could not be held. This abrupt change made it hard for me to invite teachers to participate in my study. Therefore, I could only invite teachers that I knew to participate. I was very aware of this possible limitation to my study, and hence I tried as far as possible to include those teaching students with diverse backgrounds in order to ensure that the findings would be transferable to other, similar school contexts.

Another possible limitation was that the teachers are all experienced economics teachers. I cannot, therefore, claim that the findings reflect the whole situation in economics education in Hong Kong as there are many novice economics teachers, who have different perceptions of learner diversity. To be able to make such a claim is not the purpose of qualitative research and I do believe the experiences of these teachers and schools may have considerable relevance for all economics teachers in Hong Kong.

The pandemic also affected my data collection process, in which I planned to conduct teacher interviews, class observation and students' focus group discussions face-to-face. Since I did not want to delay my research process, I chose to conduct all the above online (one teacher interviewed was conducted face-to-face) during school closure. There are some limitations arising from online interviewing and class lessons. For example, I could not see the postures of the teachers and the interactions of students

through the online system. Also, Teacher C cancelled using groupwork due to online learning. Such changes have resulted, possibly, in less information being collected. Furthermore, because of school closure students' learning was confined to online learning for some considerable time, and they may only have limited contact with their teachers and classmates. As a result, teachers' understanding of students and students' understanding of other classmates may, therefore, have been weakened. The findings gathered from their sharing may be rendered specific to a special occasion i.e., an online learning situation.

In view of the above constraints due to online learning, I planned to ask the teachers to give me some worksheets for groupwork that they had previously assigned to students for analysis. However, owing to their heavy workload in dealing with online teaching (i.e., teachers told me that they needed to spend much more time on preparing teaching materials), I did not want to overload them, so I withdrew this request.

Finally, the present study may be limited by my role as a curriculum development officer for the government. When I invited the teachers to participate in this study, I informed them that I was conducting this study in my capacity as a doctoral researcher. They may, however, have had some reservations when sharing views concerning the curriculum and their teaching.

7.6 Suggestions for future study and limitations of the present study

Due to COVID-19 in Hong Kong, all lessons were conducted online for several months. Moreover, the uncertainty of the epidemic suggests that a blended teaching mode, i.e., combining face-to-face teaching and online learning, may be a future trend. Against such a background, further study on efficient and effective ways of blended learning would help enhance the learning and teaching of economics. For example, according to the results of a survey of 100 economics teachers I conducted in a teacher training programme in November 2020, most teachers revealed that the most challenging part of online teaching was to organise groupwork. In this study, Teacher B attempted using break-out rooms to separate students into different groups. During my visit to the online students' group discussion, I observed that most of the students engaged actively in the discussion by sharing their views and contributing constructive points concerning the

topic. Their positive responses to online group discussion may be due to their familiarity with groupwork in face-to-face lessons. In view of the expected popularity of online learning in the coming future, it is worth further exploring how to facilitate groupwork through online learning.

The second difficult area of online teaching shown in the survey is conducting an online assessment, which may be due to concerns about fairness. In the online lessons I observed in this study, teachers used pre-class and in-class assessments through online tools; however, the objectives of the assessments observed were mainly checking students' prior knowledge and mastery of the content taught in the lessons. A summative assessment that affects students' academic results would involve security and fairness concerns which may not be easy to carry out online. Hence, I believe teachers would find it helpful if further studies could provide them with suggestions to handle this problem.

Apart from the issues arising from the online learning, the limitations of adopting groupwork discovered in this study are worth further exploration. For example, if gender is an element affecting grouping effectiveness, we need to study ways to help boys engage in groupwork. Not only the limitations are worth further study, the positive elements facilitating groupwork to cater for learner diversity are also worth exploring. For example, according to my findings, task design for groupwork is essential; thus, we need to study in detail the design of tasks that can facilitate students' discussion and thinking, particularly when many Hong Kong economics classes are examination-oriented.

7.7 Personal Reflection on my research journey

My interest in using groupwork to address the problem of learner diversity can be traced back to the time when I studied the Postgraduate Diploma of Education (PGDE). The instructor in my PGDE promoted cooperative grouping as a very effective method in handling learner diversity, and we were required to practise this method in teaching. When I adopted cooperative learning in my teaching; I did not follow all the rules set out in cooperative learning such as assigning roles for different members in a group but simply formed students into different groups and asked them to complete tasks

collaboratively. In my own experience, students in junior classes were eager to share and actively responded to the work I assigned to them in groups. However, for the students taking the matriculation economics class (Former Advanced Level economics class in Hong Kong), learning in groups did not work well in promoting their learning and addressing the diversity because most of the students focused on preparing for the public examination. My experience is in line with teachers in this research commenting on age as an element that affects students' engagement in groupwork.

When I started my work at the EDB, the first task assigned to me was to develop teaching resources on the use of cooperative learning to cater for learner diversity for teaching economics. During that period, I also was responsible for organising a series of training programmes for teachers concerning cooperative learning. Given all these tasks, I wondered about the reasons behind the popularity of cooperative learning and its effectiveness in economics, a subject involving many abstract concepts that requires students' vigour in tackling mathematics calculations. Nevertheless, during my school visit in my work, I found many teachers adopted groupwork in economics lessons, claiming that they were using cooperative learning to handle learners' differences. The effects of groupwork in those lessons varied. For example, one economics teacher asked his students to discuss the Principles of Taxation put forward by Adam Smith in groups. However, the Principles are factual knowledge in textbooks and so it seemed meaningless to discuss them. As a curriculum development officer, when groupworking is so popular in economics classes, I was interested to explore what elements facilitate inclusivity so that I could share my findings with the teachers in training programmes.

This study is my first in-depth qualitative research project. In my work, I usually conduct quantitative school-wide surveys, and also my economics training in the past was more related to quantitative study. However, in order to collect thorough views from teachers and students, I selected to conduct qualitative research. In the beginning, I presented my ideas in a remote manner due to my long-term training in the study of economics. I was reminded by my supervisor, Professor Trahar, many times that the role of the qualitative researcher is, usually, different from that of a quantitative researcher and that it is important to be transparent about one's personal views and to integrate them, as appropriate, throughout the research. As a government officer and

someone who, until I embarked on this research, had privileged positivism and quantitative methodologies, I found it challenging to be more reflexive during the data collection and analysis process. When I heard teachers complain about the tight teaching schedule and their practice of drilling with examination papers, I felt compelled to clarify some of the teachers' misunderstandings. However, keeping my role as a researcher in this study in mind, I avoided interfering with their sharing in order to elicit more of their perspectives. Furthermore, I found it hard to analyse the data in a reflexive manner because my written practice tends to be detached from the context in order to maintain impartiality. Nonetheless, with Professor Trahar's constant reminders, I strove to write in a more personal tone. I realised that, in doing so, I felt more ownership of the study, and I could see how it relates to my work much more clearly.

Finally, I realised that qualitative research is helpful for my work as we can hear more voices from the teachers and students. In listening to these voices, we can fill the gap between the principles set out in the curriculum guide and the implementation carried out in class. Moreover, when I understand their needs more clearly, I can co-construct the development of this subject together with them. "Their voices are heard" is an essential lesson I have learned from this study.

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Aims of the Economics Curriculum

The economics curriculum aims to enable students to:

- a. develop an interest in exploring human behaviour and social issues through an economic perspective;
- b. understand the world in which they live through mastery of basic economic knowledge;
- c. enhance their general intellectual capacity for life-long learning, through developing their capacities in economic analysis, so that they possess the skills necessary for reasoning about issues and making rational choices; and
- d. participate as informed and responsible citizens in the decision-making processes of a modern democratic society. (Curriculum Development Council (CDC) & Hong Kong Examinations and Assessment Authority (HKEAA), 2007)

Objectives of the Economics Curriculum

Knowledge and understanding	<ul style="list-style-type: none"> a. economic terminology and concepts, as well as elementary economic theories; b. basic economic problems faced by every individual and society, and alternative approaches to tackling these problems; c. the considerations and forces underlying the economic decisions that need to be taken by individuals, firms, institutions and governments; d. the interactions of different economic sectors; and e. the Hong Kong economy and its relationship with the economies of other parts of the nation and the world.
Skills	<ul style="list-style-type: none"> a. interpret economic information presented in verbal, numerical or graphical form; b. apply their economic knowledge to a variety of problems and issues in a range of economic contexts; c. analyse information through the use of economic concepts and theories; d. evaluate information, arguments, proposals and policies from different economic perspectives and make informed judgements; and e. communicate economic ideas and informed judgements, in a clear, logical and appropriate form.
Values and attitudes	<ul style="list-style-type: none"> a. participate as informed persons in the discussion of economic issues and decision- making; and b. become active and responsible citizens and contribute to the well-being of the local community, the nation and the world.

CDC-HKEAA.(2007).Economics (S4-6) Curriculum and Assessment Guide

[https://www.edb.gov.hk/attachment/en/curriculum-development/kla/pshe/7.Econ_C&A_Guide_updated_e_\(2015.11.24\)_r.pdf](https://www.edb.gov.hk/attachment/en/curriculum-development/kla/pshe/7.Econ_C&A_Guide_updated_e_(2015.11.24)_r.pdf)

Appendix 2

Economics Curriculum Framework

	Topic	Suggested lesson time (hours)
Compulsory Part	A Basic Economic Concepts	12
	B Firms and Production	30
	C Market and Price	32
	D Competition and Market Structure	8
	E Efficiency, Equity and the Role of Government	18
	F Measurement of Economic Performance	12
	G National Income Determination and Price Level	16
	H Money and Banking	18
	I Macroeconomic Problems and Policies	30
	J International Trade and Finance	18
Elective Part	Elective Part 1: Monopoly Pricing, Anti-competitive Behaviours and Competition Policy; OR Elective Part 2: Extension of Trade Theory, Economic Growth and Development	22
	Sub-Total	216
	Conducting activities to facilitate students' learning of Economics such as integrating and applying contents of various topics to enquire into daily-life and economic phenomena	34
	Total	250

CDC-HKEAA. (2007). Economics (S4-6) Curriculum and Assessment Guide

[https://www.edb.gov.hk/attachment/en/curriculum-development/kla/pshe/7.Econ_C&A_Guide_updated_e_\(2015.11.24\)_r.pdf](https://www.edb.gov.hk/attachment/en/curriculum-development/kla/pshe/7.Econ_C&A_Guide_updated_e_(2015.11.24)_r.pdf)

Appendix 3

Assessment Framework for Economics

Component			Weighting	Durati on
Public Examinati on	Paper 1	Multiple-choice questions will be set on the compulsory part of the curriculum. All questions are compulsory.	30%	1 hour
	Paper 2	Section A: Short questions will be set on the compulsory part of the curriculum. All questions are compulsory.	26%	2 hours 30 minute s
		Section B: Structured/essay-type/data response questions will be set on the compulsory part of the curriculum. All questions are compulsory.	35%	
		Section C: Structured/essay-type questions will be set on the elective parts of the curriculum. Candidates are only required to attempt the questions from one of the two elective parts.	9%	

Hong Kong Examinations and Assessment Authority

https://www.hkeaa.edu.hk/DocLibrary/HKDSE/Subject_Information/econ/2020hkds-e-econ.pdf

Economics Assessment Level Descriptors

Candidates at this level typically:

Level 5	<ul style="list-style-type: none"> • provide precise definitions and explanations of economic terms and apply economic concepts accurately and comprehensively • integrate economic terms, concepts, relationships and theory comprehensively and coherently • provide a logically consistent and comprehensive analysis of a wide range of economic issues, government policies and their impact • demonstrate informed judgment and a comprehensive evaluation of arguments, proposals and policies from a wide range of perspectives • apply mathematical and graphical tools accurately and comprehensively in economic analysis • use precise economic vocabulary and illustrative examples extensively in a well-structured manner in the exposition of economic issues and government policies in communication with people
Level 4	<ul style="list-style-type: none"> • provide correct definitions and explanations of economic terms and apply economic concepts in a variety of cases • integrate economic terms, concepts, relationships and theory in a variety of cases • display a logically consistent analysis of economic issues, government policies and their impacts in a variety of cases • demonstrate informed judgment and evaluation of arguments, proposals and policies from several perspectives • apply mathematical and graphical tools correctly in economic analysis • use correct economic vocabulary and illustrative examples in a structured manner in the exposition of economic issues and government policies in communication with people

Level 3	<ul style="list-style-type: none"> • provide clear definitions of relevant economic terms and relevant discussion using economic concepts • integrate partially economic terms, concepts, relationships and theory • with guidance display an analysis of economic issues, government policies and their impacts • with guidance present informed judgment and evaluation of arguments, proposals and policies • use appropriate mathematical and graphical tools to analyze familiar cases in the context of economics • use appropriate economic vocabulary and examples in the exposition of economic issues and government policies in communication with people
Level 2	<ul style="list-style-type: none"> • provide basic definitions of economic terms and basic descriptions of economic concepts • demonstrate a basic understanding of the links between economic data, concepts, relationships and theory • demonstrate some explanation of economic issues, government policies and their impacts in the context of economics • present judgment of arguments, proposals and policies • demonstrate basic computational and graphical skills in description or discussion involving economic contexts • provide basic descriptions of economic issues and government policies in communication with people
Level 1	<ul style="list-style-type: none"> • show simple knowledge of economic concepts • demonstrate a simple interpretation of economic data in simple contexts • relate issues and government policies to economic contexts • demonstrate simple computational and graphical techniques in the context of economics • use some terminology to communicate basic economic ideas in simple contexts

Hong Kong Examinations and Assessment Authority

https://www.hkeaa.edu.hk/DocLibrary/HKDSE/Subject_Information/econ/econ-level-descriptors-e.pdf

Appendix 5

Distribution of Results of Day School First Attempters for Economics (HKEAA) from 2014 to 2020

Years	Scores					
	5	4	3	2	1	U
2014	16.5	26.7	23.5	17.9	11.1	4.3
2015	16.4	27.3	22.2	19.3	10.8	4
2016	17.1	28	22.9	17.4	10.1	4.5
2017	17.3	29.2	22	17.9	9.2	4.4
2018	17.1	29.4	22.7	17.9	8.8	4.1
2019	18.8	28.7	20.8	18.3	9	4.4
2020	18	28.3	22.6	17.4	9.3	4.4

Invitation email to teachers

Dear XXX,

I am a candidate of the Doctor of Education programme of the Graduate School of The University of Bristol, England. I am now conducting a research study on evaluating the effects of grouping arrangement in catering to learner diversity in Hong Kong economics classes.

The research consists of an interview with the economics teachers, a class observation and a focus group interview with students afterward. The teacher interview aims at exploring how teachers perceive learner diversity in their economics class and how they arrange their teaching in response to the diversity. The interview will be conducted in Cantonese for about 35 to 45 minutes. In view of the school suspension during this period of time, the interview will be conducted online.

For the class observation and students focus group interview, your assistance is sought to organize an economics class for me to be an observer and invite four to five students to participate in the interview after the class. The students interview aims at soliciting students' views about diversity in class and how teachers' arrangements impact on their learning. The interview will be conducted in Cantonese and last for about 45 minutes.

For analyzing the data collected in the research study, the interviews will be recorded and transcribed in English for writing up the research report. You will be invited to comment on the transcriptions to make sure your views are correctly reported.

To ensure the confidentiality of the participants, the names of you and your students will be replaced with a pseudo-ID. No participants will be personally identified anywhere in the final report. The data will be kept securely, and no derivative publication will directly or indirectly lead to a breach of agreed anonymity. I will also comply with the legal requirements in relation to the storage and use of personal data as defined in the Personal Data Privacy Ordinance. Once the study is completed, all data obtained in the interviews and class observation will be saved in a password-

protected folder, in a password-protected computer, and disposed of three months after the completion of viva voce.

Please be assured that your participation is voluntary and you have the right to withdraw any time. Should you have any questions about the research, please contact me at 12345678 or 12345678@gmail.com.

Please kindly send a reply to me if you agree to participate in this research study. On receipt of your reply, I will send a letter to your school head to seek his/her consent to my conduction of the research in the school. Thank you very much.

Your sincerely,

Grace Wong

EdD Candidate of University of Bristol

Letter to obtain consent from the school heads

23 April 2020

Dear Principal Y,

I am a candidate of the Doctor of Education programme of the Graduate School of the University of Bristol, England. I am now conducting a research study on “Catering for Learner Diversity through Grouping in Economics classes in Hong Kong”, and I would like to invite your school to participate.

The research consists of an interview with Mr. X, a class observation and a focus group interview with students after class. The teacher interview aims at exploring how Mr. X perceives learner diversity in his economics classes and how he arranges the teaching in response to the diversity. The interview will be conducted in Cantonese for about 35 to 45 minutes. In view of the school suspension during this period of time, the interview will be conducted online.

For the class observation and students focus group interview, Mr X’s assistance is sought to organise an economics class for me to be an observer and invite four to five students to participate in the interview after the class. The students interview aims at soliciting students’ views about diversity in class and how teachers’ arrangements impact on their learning. The interview will be conducted in Cantonese for about 45 minutes.

All the interviews will be audio-taped and transcribed into English for further analysis. Mr. X and the students have the right to review the record. To ensure the confidentiality of the participants, the names of the teacher and students will be replaced with a pseudo-ID in the final report. No participants will be personally identified anywhere in the report. The data will be kept securely, and no derivative publication will directly or indirectly lead to a breach of agreed anonymity. I will also comply with the legal requirements in relation to the storage and use of personal data as defined in the Personal Data Privacy Ordinance. Once the study is completed, all data obtained in the

interviews and class observation will be saved in a password-protected folder, in a password-protected computer, and disposed of three months after the completion of viva voce.

Please complete the reply slip below to indicate whether your school would participate in this research. Participation is entirely voluntary, and all information obtained will be used for research purposes only. If you have any questions about the research, please feel free to contact me at 12345678 or 12345678@gmail.com or my supervisor, Professor Sheila Trahar at S.Trahar@bristol.ac.uk.

Your help is very much appreciated.

Yours sincerely,

Grace Wong

EdD Candidate of University of Bristol

Reply Slip

I have read the information above and decided that my school will collaborate with Ms. Grace Wong at the University of Bristol for the research on Catering for Learner Diversity through Grouping in Economics classes.

School's Name: _____

Principal's Name: _____

Principal's Signature: _____

Reply slip from the principal of School A

Reply Slip

I have read the information above and decided that my school will collaborate with Ms. Grace Wong at the University of Bristol for the research on Catering for Learner Diversity through Grouping in Economics classes.

School's Name:

Principal's Name:

Principal's Signature:

Reply slip from the principal of School B

Reply Slip

I have read the information above and decided that my school will collaborate with Ms. Grace Wong at the University of Bristol for the research on Catering for Learner Diversity through Grouping in Economics classes.

School's Name:

Principal's Name:

Principal's Signature:

Reply slip from the principal of School C

Reply Slip

I have read the information above and decided that my school will collaborate with Ms. Grace Wong at the University of Bristol for the research on Catering for Learner Diversity through Grouping in Economics classes.

School's Name:

Principal's Name:

Principal's Signature:

Structure of the Teacher's Interview

I. Introduction

1. Self-introduction of the interviewer
2. Stating the aims and confidential principles of the interview

II. Foci of the interview

1. teaching experience
2. background of their students
3. types or sources of learner diversity and impacts on students' learning
4. strategies in catering for learner diversity
5. experience of using grouping in handling learner diversity
6. the rationales for the use of particular grouping practices within their own classroom;
7. ways in which they tailored grouping practices to meet the needs of (i) particular content areas, (ii) particular groups of students and (iii) different kinds of learning tasks;
8. evaluation of the effects of grouping and factors affecting the effects

III. Background information of the class to be observed

1. background of the students and their performance in academics and other aspects
2. the objectives and focuses of the lessons to be observed
3. design of the lesson
4. the rationale of the design
5. the expectation of the such design

IV. Closing

1. thanks to the teacher
2. restating the confidentiality of the interview

Questions for students focus group

1. Do you find any learner diversity among your classmates in the economics class?
2. What kind of differences do you find?
3. How do you notice those differences?
4. Do you have any experience of collaborative grouping in your economics class?
5. Do you find it helpful in economics learning?

Lesson observation field note

Observation of the teachers

1. Does the teacher pay attention to the individual needs of the students?
2. How does the teacher deliver the contents?
3. Does the teacher do anything to facilitate group interaction?
4. Does the teacher adjust the design of the lesson?
5. How does the teacher respond to the behaviour of the students?
6. What kind of feedback does the teacher provide for students?
7. What is the overall atmosphere and culture of the classroom?

Observation of the students

1. The level of involvement of the students in the group. Any difference in their participating level?
2. Teacher-student interaction (How do students with different abilities respond to teacher instructions and questions?)
3. How do students interact with each other in the group?
4. Are the tasks completed or are the objectives set by the teachers achieved?

a. Reflective notes

Reflective notes were made when reading through the transcripts of teachers' interview

G (05:31)	How do you perceive learner diversity in your economics classes?
B	The learner diversity in each group is not large, for example, a class of 30 students may have similar ability due to their similar choice of subjects. However, the diversity between different groups of students is large. For example, students may have at least 3 levels difference in DSE Exam result between groups.
G	Do you mean the difference among students in the same class is not large?
B	There is difference in one class but the difference is not that obvious. For example, there are 5 outstanding students in the class and the remaining 25 students are of average ability, but they can catch up with the outstanding ones. The other class may have 3 outstanding and 30 average students. When comparing the 25 students in one class with the 30 students in the other class, the difference is very large. I think, there is academically difference but the difference is not big when they enter S4. What I think is the difference in atmosphere in class and their attitude become larger when times go by. It may due to the situation students in weaker classes may not have sense of achievement and then they perform poorly gradually. I think it is a common phenomenon in other schools as well.
G	Do you mean their ability difference was not big when they were first in

Comments

WONG, Kam-fung Grace 五月 14, 2020

Labelling effect □ motivation □ learning atmosphere created by teachers and students themselves □ poorer results □ vicious cycle

Ability difference is not that big

b. Coding and thematic analysis based on the research question

Element:

-ve

● SES

Code for Hindering elements

TA: Students who think individual learning is better and this is related to students' culture and background. Recall my experience in the first school, the family background of the students were not strong, so they realized that they need to learn from each other. Hence they would be willing to share in order learn. Students in this school think they can ask their private tutors if they have anything they don't understand. They can learn from a great support from their family and hence they don't think there is a need to share in the school.

TC: Mainland students are not familiar with Hong Kong's pop culture and language that hinder their communication in group.

G: culture and context in understanding what occurs in society (NCS students may not have sufficient background knowledge of HK. society)

(LR: Emphasis on interplay between individual, social, and community dimensions in learning has produced a variety of analogies to conceptualize learning, including "knowledge acquisition," "participation," and "knowledge creation" (Paavola, Lipponen, & Hakkarainen, 2004; Sfard, 1998).

Ethics Form

- Name(s): Wong Kam Fung, Grace
- Proposed research project:
 - A study on the effectiveness of within-class grouping in catering for learner diversity in Hong Kong secondary economics lessons
- Proposed funder(s): Self-financed
- Discussant for the ethics meeting: Dr Lai Ling Yan, Edith
- Name of supervisor: Professor Sheila Trahar
- Has your supervisor seen this submitted draft of your ethics application? Y/~~N~~
- Please include an outline of the project or append a short (1 page) summary:
- Ethical issues discussed and decisions taken (see list of prompts overleaf):
 - Researcher access/exit

In order to get access to the target participants i.e., teachers teaching students with diverse ability or/and ethnic background, I will invite the two associations in relation to secondary school economics education to nominate teachers to participate in this study. The main objective of the two associations is to promote economic education and teaching in Hong Kong secondary schools. They have a large pool of teacher members and they are familiar with the teachers' needs. The aim of my study aligns with their objective and hence I believe they would support my study. In addition, inviting teachers to participate in this study through their network is expected to make the study less official from the perspective of the teachers than if I approach them directly.
 - Power and participant relations

Teachers know me well as a government official and this may give them stress when they are invited to participate in this study. In view of this issue, I will state clearly in the invitation letter that this study is being conducted in my individual capacity and their participation is totally voluntary. Also, they will be assured that their identity and information shared in the study will be kept confidential. In addition, focus group interviews will be conducted in a school of one of the participants instead of the meeting room in the Education Bureau Service Centre. Conducting focus groups away from the Education Bureau will enable the participants to feel more comfortable and will reinforce my statement that I am conducting this research in my capacity as a doctoral researcher.
 - Information given to participants/ Participant's right of withdrawal/Informed Consent

The aims and operational procedure of this study, how the data will be treated, the way the study will be published and participants' responsibilities in the research process will be explained clearly in the invitation letter. All participants will be informed that this study is my personal study and their participation is voluntary and that they have the right to withdraw at any time for any reason. Should they decide to withdraw, I will ask whether or not I may use any of the data that they have provided. If they refuse, I undertake not to use them. In addition, they will be informed that the focus group interviews would comprise teachers from other schools and they will be asked to sign an undertaking to keep confidential all of the information and contents of the focus group interview.

➤ Complaints procedure

The contact email of my supervisor will be included in the Informed Consent Form for any participant who wishes to communicate about the study, pass on a comment or make a complaint concerning my study directly with her.

➤ Data analysis/Data storage/Data protection

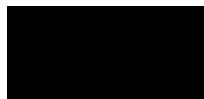
To ensure the confidentiality of the participants, their names will be replaced with a pseudo-ID comprising of a government-assigned school code and their initials, e.g., '001_wkf'. No participants and their schools will be identified anywhere in the report. The data will be kept securely and no derivative publication will directly or indirectly lead to a breach of agreed anonymity. I will also comply with the legal requirements in relation to the storage and use of personal data as defined in the Personal Data Privacy Ordinance. Once the study is completed, all data obtained in the survey and interviews will be saved in a password protected folder, in a password protected computer and disposed of three months after I pass through the examination process.

➤ Feedback

Participants will be invited to comment on the transcripts of the focus group meeting as well as the data analysis to increase the credibility of the study. In addition, they will be informed of how they can access the data collected when the dissertation is published.

If you feel you need to discuss any issue further, or to highlight difficulties, please contact the GSoE's ethics co-ordinators who will suggest possible ways forward.

Signed:



(Researcher)

Signed:



(Discussant)

Date:

27 Dec 2018

27/12/2018

Summary of the study

Background

Since the implementation of the new academic system in 2012, many economics teachers have reflected to me that greater learner diversity has become an issue in their teaching. Students differ in various ways, including their prior learning experiences, abilities and disabilities, cultural backgrounds, learning interest and preferences. Throughout the past few years, teachers have been adopting different strategies to cater for the diversity and within-class grouping is a commonly observed method in economics classes. Nevertheless, the effectiveness of grouping in catering for learner diversity in Hong Kong secondary economics education has not been studied and evaluated.

Objective

This research will focus on 1) practices of within-class grouping that Hong Kong secondary school Economics teachers adopt to cater for learner diversity; 2) teachers' perception of its effectiveness, and 3) factors impacting the effectiveness. Its main objective is to inform the policy of, and teacher training on, how to plan, implement and evaluate within-class grouping in economics lessons in Hong Kong secondary schools in order to ensure greater inclusivity.